

MODERN PACKAGING



COMPOSED AND PHOTOGRAPHED FOR MODERN PACKAGING BY HAL REIFF

SUCCESS STORY: Johnson's Holiday, p. 120

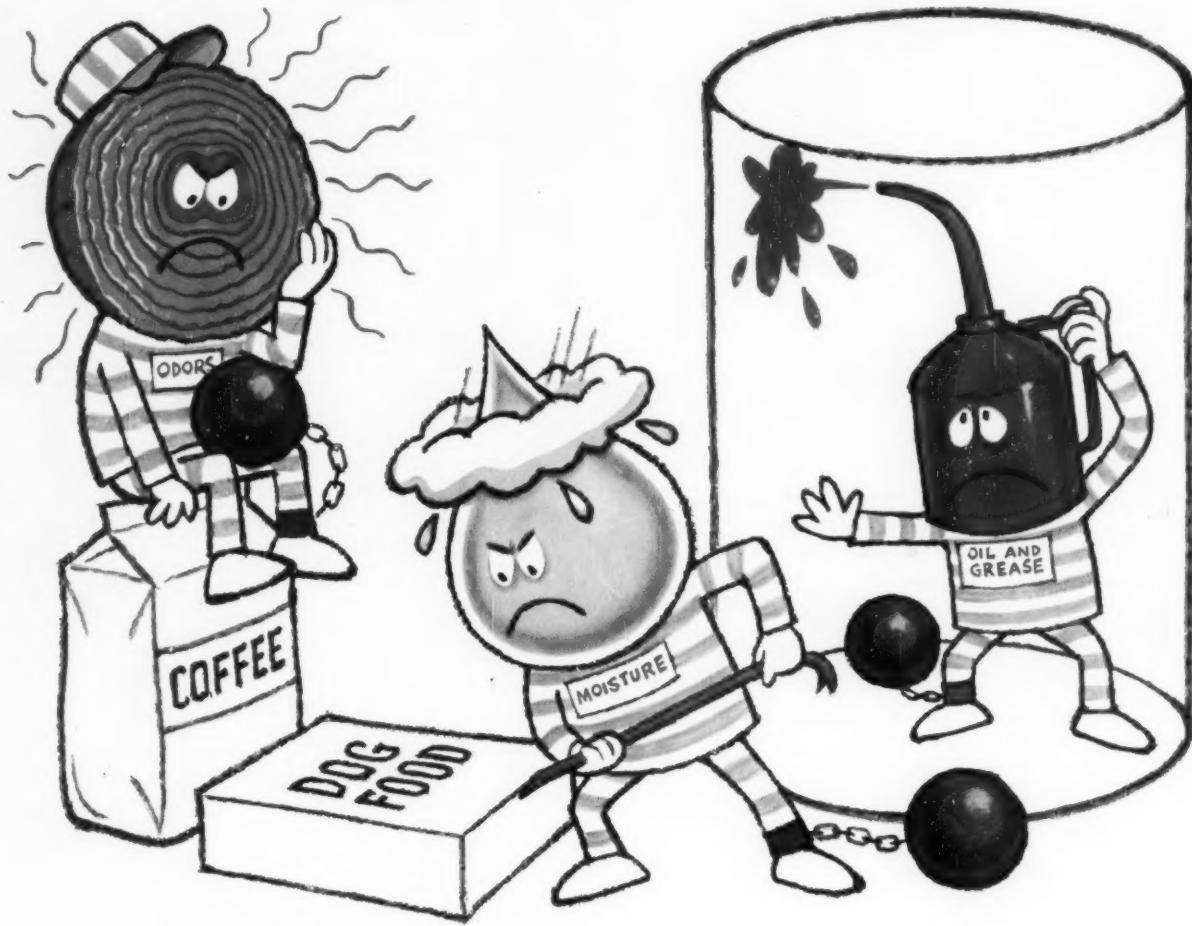
Background for Packaging, p. 41 / World Report, p. 80 / Editorial Memo, p. 93

Ideas in Action, p. 110 / Cost Cutters, p. 136 / Complete contents, pp. 2-3

SEPTEMBER 1961

RESYN® 3600

POLYVINYLDENE CHLORIDE LATEX FOR PROTECTIVE COATINGS



LOCKS 'EM IN OR OUT—LONGER

RESYN 3600 promises a revolution in protective coatings with simple low cost application by high speed coating machines or spraying. The barrier properties of this water dispersed polyvinylidene chloride are exciting and exceptional:

OIL, GREASE AND CHEMICALS—Completely resistant to oil and grease. Non-reactive to concentrated acids, solvents, alkalies and other corrosive materials. Fire retardancy is excellent. MOISTURE—Moisture vapor transmission is $2\frac{1}{2}$ to 5 times

lower than that of polyethylene. ODORS—Resistance to transmission of common gases 1000-2000 times greater than polyethylene . . . RESYN 3600 can be coated on paper, paperboard, plastic and other substrates. It also may be applied to fibers. It is of interest to a broad range of industries, including food and other types of packaging, converting, chemical and textile. Now in full scale commercial production. Call or write your nearest National office for full information.

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NATIONAL STARCH and CHEMICAL CORPORATION

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GOOD YEAR



KFAS machine by Swiss Industrial Company prepackages coffee swiftly and efficiently in PLIOFILM lined bags

Thriftest way to keep coffee fresh



It's the PLIOFILM liner that makes it possible for American Stores, and many others, to pregrind, prepackage their coffee—keep it fresh and sell it at lowest cost.

Only a PLIOFILM liner preserves freshness and flavor by sealing out oxygen, yet transmitting CO₂.

Other dollars-and-cents factors: the old-fashioned coffee grinder is gone, and so are the waste and inconvenience. There are also big savings in space and machine maintenance. For complete information, write: Goodyear, Packaging Films Dept. I-6418, Akron 16, Ohio. Lots of good things come from Goodyear.

by **GOOD YEAR**

Pliofilm, a rubber hydrochloride—T.M. The Goodyear Tire & Rubber Company, Akron, Ohio



IN THIS ISSUE OF MODERN
SEPTEMBER 1961 / VOLUME 35 / NO. 1

95 **The question of trademarks**
 In simpler bygone days, the choice of an identifying trademark was a comparatively easy matter. But in this age of diversification, merger and research, trademark planning and strategy pose many complicated problems. Here is an up-to-date review of the whole problem, with object lessons and suggestions that can help packagers improve one of the great selling tools. General interest.

101 **Pop-out pack for golf balls**

When a product improvement doesn't show, give it drama with an eye-catching new convenience package. That's the selling philosophy behind Worthington's multi-unit windowed dispensing carton for new steel-centered golf balls. It has paid off in sales and user appeal, says the firm.

Special interest: designers, sales, advertising.

102 **Self-locking shipper**

Specialized training in packaging does pay off. As proof, consider Timken Roller Bearing's new tamperproof corrugated container, developed by two graduates of Michigan State University's School of Packaging. The re-usable shipping box eliminates the cost of strapping materials, mechanical devices and labor for this operation. General interest.



104 **Liquid skin for meats**

A totally new coating machine being used by Stoppenbach Sausage to package luncheon meat may have broad application to other foods and non-foods. It applies a polyethylene/wax compound in a liquid sheet which hardens rapidly into a tough barrier film conforming to product shape. A shrink-film overwrap completes the airtight package, which reportedly doubles product shelf life at 40% less in labor cost.

A production-methods article.

107 **'DECEPTION': Progress report**

Consumer-goods packagers, having endured a torrent of abuse in the first Senate Subcommittee hearing on "deceptive packaging," must wait still longer for their day in court. The second session, soon to come, will be devoted to retailers and distributors. But packagers already are taking action to set the record straight and bring needed balance to a grossly distorted situation.

General interest.

112 **Shifting trends in printing**

Part 2. A significant trend in the printing of flexible packaging materials is the upsurge of halftone, which offers subtle and sales-winning combinations of graphics and multicolor effects. The result of improvements in machinery, inks and printing surfaces, this "new look" is invading consumer and industrial packaging.

General interest.

119 **Corrugated with foil**

Quinlan Pretzel switches from a returnable can to a disposable foil-lined corrugated carton for bulk quantities. Foil's barrier quality gives the product long shelf life and Quinlan reports a packaging-material cost saving of 67%. Special interest: foods, moisture-sensitive items.

120 **Johnson's Holiday**

A Success Story (see cover). From the start, S. C. Johnson's Holiday wash-and-shine auto cream was destined for packaging in a captive-cap high-density polyethylene squeeze bottle—which neither spills nor scratches the car. The wisdom of this choice is borne out by the fact

FRONT FEATURES

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Capsule comments and notes on significant news.

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Important new products from suppliers.

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"Time for constructive action."

MODERN PACKAGING, Executive and Editorial Offices, 770 Lexington Ave., New York 21, N.Y. Phone PLaza 9-2710

Please mail all correspondence, change of address notices, subscription orders, etc., to the above address. Teletype: TWX-NY 1-3063. Cable address: "Breskinpub." Quotations on bulk reprints of articles available on request.

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PACKAGING®

THE COMPLETE AUTHORITY OF PACKAGING

that, four months after introduction, Holiday was outselling all other car-care products.

General interest.

124 **For GM: 1,200 designs on one standard**
Every container in 12 of this big corporation's parts-making divisions is getting a uniform new look under one brand name: Delco. But the job has been organized so well that all divisions and suppliers can know what is expected in surface decoration by referring to brief specifications in a 17-page packaging manual.
General interest.

129 **Campbell's Soup in aluminum**
This famous packager answers consumer requests for convenience by putting up a line of seven new dry-soup mixes in hermetically sealed, pull-tab-opening all-aluminum drawn cans.
Special interest: foods and drugs.

132 **Horizontal-auger filler**
Replacing intermittent-motion equipment, a high-speed rotary filler for dry products has been installed by R. T. French. The new unit has produced a 50% boost in filling speed and boasts increased fill accuracy, versatility, ease of cleaning, and dust and humidity control.
Special interest: foods and drugs.

135 **Beverage in a bag**
Calypso of Canada introduces a non-carbonated orange drink in convenient liquid-holding polyethylene bag with drinking straw attached.
Special interest: milk, other beverages.

138 **Solving a closing problem**
A high-speed unscrambler and applier for plastic ends on paperboard salt containers brings new economy to Leslie Salt's packaging line. Operating by means of a simple air jet, the new 300-per-min. unscrambler works twice as fast as the unit it replaces. *By Peter Pinto.*
A production-methods article.

TECHNICAL & ENGINEERING

143 **Food status of aluminum foil**
Eight manufacturers of aluminum foil have collaborated in a study to determine the amount and character of rolling-oil residue on the

finished foil surface. Result: Residues are well below the limits acceptable under the Food Additives Amendment. *By Kenneth Morgareidge.*

146 **Surface treatment of glass**
Here is a valuable review of available coating methods designed to minimize glass-container bruises and abrasions. Their purpose is to preserve the intrinsic strength of the glass container. *By J. W. Hackett and H. A. Steigelman.*

149 **Shock-overload indicators**
Super-sensitive shock indicators used by the Navy to check the adequacy of shipping containers and handling systems for missiles also may have commercial application in the safeguarding of a variety of delicate products. *By K. C. York.*

152 **Questions & Answers**
Advice on readers' technical problems.

The MODERN PACKAGING General Alphabetical Index for Volume 34, providing a complete reference to contents of all issues from September, 1960, through August, 1961, is now available free of charge to subscribers, but will be sent only on request. Please address requests for copies of the index to Readers' Service Editor, MODERN PACKAGING, 770 Lexington Ave., New York 21.

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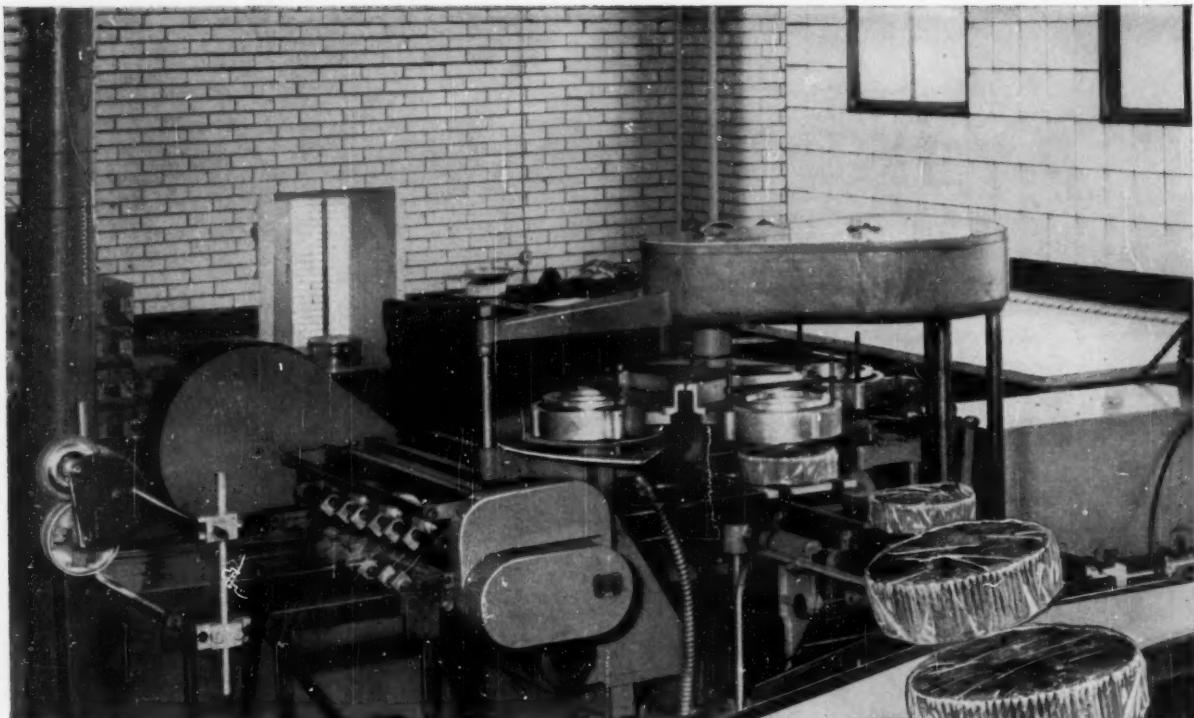
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Valuable data, yours for the asking.

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MP

Modern Packaging issued monthly by Modern Packaging Corp., at Emmett St., Bristol, Conn. Modern Packaging Encyclopedia Issue published as second issue in November by Packaging Catalog Corp., at Emmett St., Bristol, Conn. Second-class postage paid at Bristol, Conn. Subscription rates (including Modern Packaging Encyclopedia Issue): In U. S., its possessions and Canada, 1 year \$8, 2 years \$14, 3 years \$18; all other countries (payable in U. S. currency), 1 year \$25, 2 years \$45, 3 years \$60. Single copies in U. S., its possessions and Canada, \$1 each (Encyclopedia Issue, \$3); all other countries \$2.50 (Encyclopedia Issue \$6).





Tight, attractive overwrap for fruit cake is produced by the WRAP-KING CK/P-2 at rate of 54 per minute.

Wrap-King cuts production costs for Cakemasters of America, Inc.

Wrapping rate for fruitcake increased 300%; waste due to breakage reduced to 0.1%

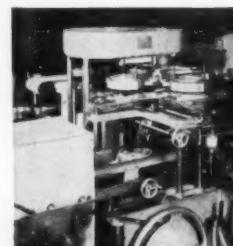
You may have a similar problem. Cakemasters of America, Inc., Chicago, were faced with rising production costs and excessive waste through breakage.

They required a tight, attractive cellophane overwrap for their increasingly popular fruit cake, and a high wrapping rate to match the oven output of 2½ million cakes during their May to December season. So, they turned to Crompton & Knowles Packaging Corporation for an automatic packaging system that would increase production efficiency while minimizing waste due to breakage.

The WRAP-KING Model CK/P-2 provided the answer. Operating at 54 cakes per minute, the CK/P-2 produced a bunch fold overwrap with a tight seal. Its handling of the product resulted in a product breakage of less than 0.1%. And the 300% increase in the wrapping rate produced the desired efficiency.

Says Mr. Larry Gordon, Production Superintendent, "High speed packaging of our fragile product, coupled with a significant reduction of product damage, has given us an efficient rate of production."

Cost reduction through high speed automatic packaging is the special ability of Crompton & Knowles Packaging. Whatever your particular requirements may be, from single machines to completely integrated lines, C & K know-how can provide the most efficient answer. For complete details, and leasing arrangements, write Wrap-King Division.



Minimum breakage of 0.1% is achieved by gentle, yet highly efficient, handling of fragile product on automatic, high-speed WRAP-KING.



CROMPTON & KNOWLES PACKAGING CORPORATION
Agawam, Mass.

Bellwood, Ill.

**INTERNATIONAL SALES AND SERVICE OFFICES: NEW YORK CHICAGO CLEVELAND WINTERHAVEN, FLA.
DALLAS ATLANTA TORONTO MONTREAL ZURICH LONDON: CLAVELL BATE AND NEPHEWS, LTD.**



No more lumps
in brown sugar!
No more caking!
C & H offers
housewives this new
convenience, and gives
"Golden Brown Sugar"
and "Velvet Smooth
Powdered Sugar"
new impact at
the point of sale.
Packaging: moistureproof
polyethylene custom bags
produced and printed
by Dobeckmun.

packages for performance

DOBECKMUN

Catch more customers with eye-catching, convenient polyethylene custom bags! Polyethylene locks out moisture-laden air, prevents lumping and caking—even with brown and powdered sugars. A handy plastic device recloses the bags, and they mold easily to fit canisters. Seal them with heat and ship them with confidence. Polyethylene custom bags are typical of the many fine packages produced by Dobeckmun, where experience solves problems better. Call your representative or write to THE DOBECKMUN COMPANY, a Division of The Dow Chemical Company, Cleveland 1, Ohio • Berkeley 10, California • Offices in most principal cities.



King C. Gillette

REG. U. S. PAT. OFF.

The master barber shaves packaging costs with bundling by Scandia



The Gillette Company uses Scandia Bundling Machines to overwrap its wide variety of distribution packages.

Why? The reason is obvious. Crisp cellophane overwraps with opening tape are attractive, easily identified, and easy to handle.

But most important are the economies Scandia Bundlers can bring you. Using either plain or registered, printed film or Kraft paper you can effect up to 80% savings on materials costs alone. Hand filling display containers is eliminated, too. And your cost of warehousing

packaging materials can be sharply reduced.

The individual cartons containing Gillette blades or Gillette dispensers are also wrapped on high-speed money-saving Scandia machines.

Call or write today for an analysis of your overwrapping needs. No obligation on your part. Scandia Packaging Machinery Company, North Arlington, New Jersey. WYman 1-8400.



SCANDIA
MEANS CRAFTSMANSHIP

LUXURY and GIFT PACKAGING PRODUCED AUTOMATICALLY AT LOW COST...

with Jersey Automatic boxmaking equipment

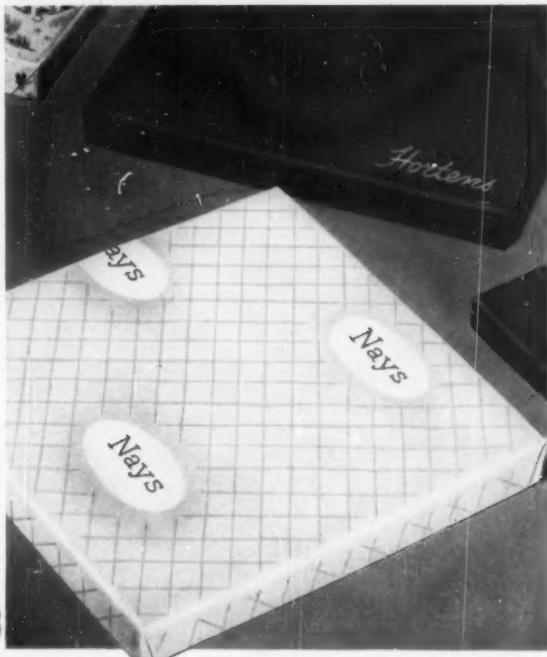
With loose-wrap you can "automatically" create an impression of elegance . . . a quality which adds extra sales stimulus to luxury products.



A prominent midwestern boxcrafter converted a customer to loose-wrap lids and successfully sparked sales of high-priced pen and pencil sets against low-priced competition.

TWO CASES IN POINT

With loose-wrap you can "automatically" create the "bundle ends" and puffed-top lid which provides a distinguished gift-wrap look at low cost.



A well-known eastern box manufacturer is saving a large department store the expense and delay of separate gift-wrapping by converting the store to loose-wrap.

More and more boxmakers are joining the ranks of satisfied users of the Jersey Automatic System for box manufacturing. They can testify to the simplicity of the electric-eye system which controls the belt travel and provides accurate register without touching the wrap. The weight or curliness of the paper is not a factor in successful operation, since the wrap does not run up against a stop. The process enables them to produce loose-wrap boxes with accurate register, minimum waste, higher production and less labor cost—for full details on the Jersey Automatic System for manufacturing both tight and loose-wrap boxes, write for Bulletin JA today.



Labeling, Cartoning
Paper Box Machinery

IMPORTANT: New Jersey Machine Corporation has just been awarded patents No. 2,958,267 and No. 2,961,931— covering its original method of automatically manufacturing loose and tight-wrap boxes. Additional patents are pending.

NEW JERSEY MACHINE CORPORATION

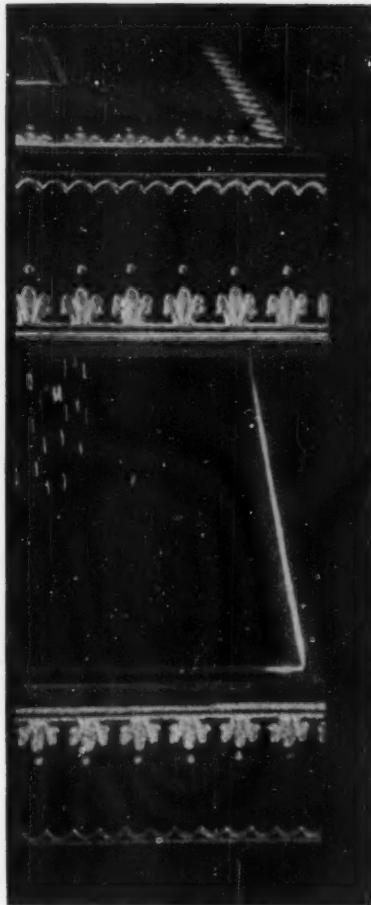
MAIN OFFICE AND PLANT • 16TH ST. AND WILLOW AVENUE, HOBOKEN, N. J. • OLDFIELD 9-0483
FACTORY SALES AND SERVICE BRANCHES; 325 W. HURON ST., CHICAGO 10, ILLINOIS, 2500 W. 5TH ST., LOS ANGELES 57, CALIFORNIA



They couldn't break these acid bottles

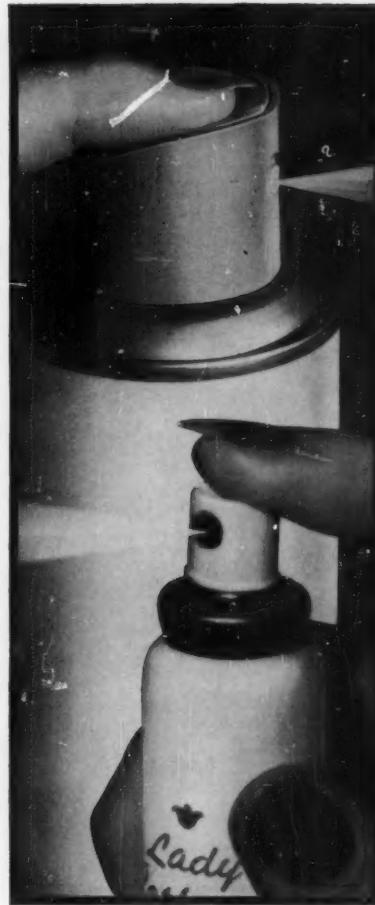
These acid bottles were undamaged after a staggering ICC drop test: 16 falls from four feet. Secret is the 1 1/4 pound molded foam plastic case made from rigid, weather-resistant, chemical-resistant, shock-resistant DYLITE® expandable polystyrene. Developed by Allied Chemical's General Chemical Division, the case is used for its Baker & Adamson reagent acids. It has molded-in finger grips and interlocking top and bottom stacking grooves. More and more manufacturers are turning to DYLITE packaging because of its ultra-light weight, excellent cushioning and the ease with which it can be molded into intricate shapes at low cost. Since DYLITE can be colored or decorated in many attractive ways, it can make a package that's also a good-looking point-of-purchase display.





Plastic watch case looks like leather

This Wyler watch case is hard to distinguish from one made of leather, yet it's molded from tough, less expensive hi-impact DYLENE® polystyrene. It opens and snaps shut without chipping or troublesome cracking around the hinge. The deep red case is molded to a pebble finish and heat stamped with metallic gold trim. Box designed, molded and manufactured by Custom Manufacturing Company, Jersey City, New Jersey.



Push-button age needs plastics

Today's housewife spends a lot of time pushing buttons. The obliging Valve Corporation of America supplies her with aerosol actuators and caps molded of SUPER DYLAN® high-density polyethylene. They (1) cost less than metal, (2) easier to assemble, (3) have a smooth, glossy, rust and stain-resistant finish that can't chip or dent. Avon, Revlon, Coty, Lanvin, Fuller Brush, Stanley Home Products and Simoniz are just a few users.



Put \$170.00 in your pocket

High-speed packaging machines now make it possible for you to save real money—as much as \$170.00 on each 1,000 pounds of the crisp, clear film you may now be using—and still have a better package! How? Use film made from SUPER DYLAN® high-density polyethylene and take advantage of its unidirectional, straight-line tear, low permeability and clarity. Furthermore, it is unaffected by extremes in temperature and humidity.

KOPPERS PLASTICS

**For complete information about Koppers family of fine plastics for packaging,
write Koppers Company, Inc., Plastics Division, Dept. 123, Pittsburgh 19, Pa.**





WEAREVER starts the school year in DAVIS ACETATE

Aiming strongly for student sales, Wearever has wrapped up an exceptional value in a provocative package formed with Davis Acetate. Crystal-clear bubbles display pen and cartridge refills to best advantage, and offer maximum protection against soilage and pilfering. The package was designed and produced by David Kahn, Inc., manufacturers of Wearever Pens and Pencils. Davis Acetate was chosen for this important packaging job because of its strength, durability and clarity.

Davis extruded acetate sheets, rolls and film come in all gauges — transparent, translucent or opaque — and are ideal for all kinds of vacuum forming applications. We have been supplying the packaging industry with plastic materials for over 40 years, and we welcome the opportunity to help packagers with their problems. Let us send you a brochure describing our facilities and the wide range of plastics we produce, together with details on their properties and applications.

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sounds better...



sells better

Tableware by Bopp-Decker Plastics, Inc., Birmingham, Mich.

It's **Escon[®]** polypropylene!

When a shopper picks up a product made of Escon polypropylene, a good part of the selling is already done. Escon has a rich, warm, solid feeling which says "quality" better than words.

Smart merchandisers are capitalizing on this quality feel in housewares, packaging, closures and

containers to add extra appeal to their products. It's one form of sales insurance which costs very little—but makes a big difference in results.

Escon has many appealing properties which help put a product over at the point of sale. For full details, write to Enjay, 15 W. 51st St., N.Y. 19, N.Y.

EXCITING NEW PRODUCTS THROUGH PETRO-CHEMISTRY

ENJAY CHEMICAL COMPANY
A DIVISION OF HUMBLE OIL & REFINING COMPANY



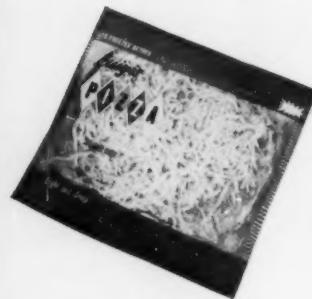
Oneida puts "Personality"
in flexible packaging!



Give your product
the point-of-purchase
personality that stands out on the shelf and SELLS!
Give it the "look" that makes shoppers want to take
it home for their very own!

Oneida has specialized in putting sales personality
into packaging for over 30 years. It's the knack of
knowing how to combine the right materials,
imaginative design, quality construction . . . and
incomparably brilliant printing, on Oneida's 6-color
printing facilities, including oil ink letterpress,
flexographic and rotogravure combination. Plus prompt
service and four strategic plants that serve the nation.

whatever
your product...



flexible packaging
by Oneida



will surround it
with **SELL!**



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CONVERTERS AND COLOR PRINTERS OF QUALITY PACKAGING from: Glassine, Cellophane,
Polyethylene, Vinyls, Parchment, Sulphite, Foil, Kraft, Waxed, Coated and Laminated Materials.



The
Quality
Image

PICTURED ABOVE . . . FINE PRODUCTS OF GEO. A. HORMEL & CO.

Look to the Leader in Aluminum Packaging

REYNOLDS ALUMINUM

The sparkling labels on these "Famous Foods of the World by Hormel" are beautiful proof that foil imparts an extra-quality impression—unique, distinctive, eye-catching. For the packaging that will best enhance your product's Quality Image, consult the leader in aluminum foil packaging. Just call any Reynolds sales office. Or write to Reynolds Metals Company, Richmond 18, Va.



Seal helps sell!

Watch Reynolds exciting TV programs on NBC: The Dick Powell REYNOLDS ALUMINUM SHOW every other Tuesday; ALL STAR GOLF—in living color—every Saturday.





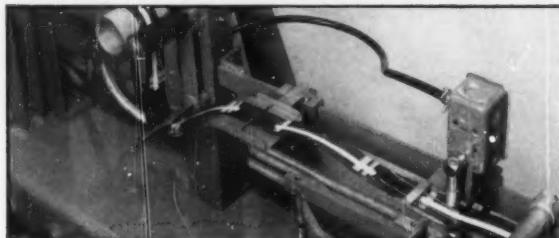
ADD "Pick-up and Go" TO YOUR PACKAGING

with
Carry-Pack

THE LOWEST COST,
QUALITY HANDLE!

Carry-Pack HANDLES add carrying convenience to your packages! Now, with the development of new, fully automatic application equipment and new handles, you can "handle" all of your packages in style for a fraction of the cost of wire, plastic or die cut jobs.

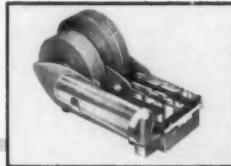
3 WAYS TO APPLY CARRY-PACK HANDLES!



FULLY AUTOMATIC! This low cost electric eye attachment, shown on a General Corrugated Taping Machine, applies Carry-Pack handles at regular production speeds.

SEMI-AUTOMATIC! The electric Carry-Pack dispenser ejects up to 70 handles a minute.

MANUAL OPERATION! Manually operated dispensers are loaned free.



FOR MORE INFORMATION, ATTACH COUPON
TO YOUR LETTERHEAD AND MAIL TODAY!

Carry-Pack
SCHILLER PARK, ILLINOIS



THESE CARRY-PACK FEATURES TELL THE STORY:

- **STRONG**—safely carries up to 65 lbs.; tensile strength up to 250 lbs.
- **STYLISH**—Suitable for chip board or coated cartons.
- **EASY APPLICATION**—Can be applied at box plant as integral part of box or applied to finished or filled boxes on filling line.
- **LOW COST**—lowest cost applied handle on the market today!
- **ALL COLORS AND SIZES** to fit your custom needs.

Carry-Pack Handles sell more of the "Giant Economy Size" and "Tie-in Deals" because it makes it easy for that most important trip of all . . . from the shelf to the shopping cart!

25 years of experience in "handling" packages

Made under U. S. Patents 2,722,870 and 2,860,533

Carry-Pack Co., Ltd., Schiller Park, Illinois

MP-91

Gentlemen:

Please send me more information.

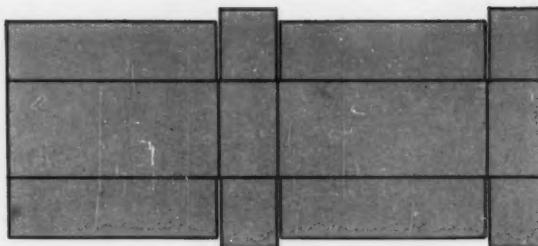
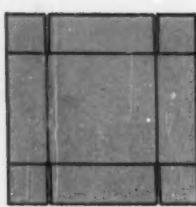
Please arrange for a free demonstration.

NAME

COMPANY

ADDRESS

CITY STATE



**High-speed,
hot-melt Epolene coating**

EXTENDS USE OF CORRUGATED BOARD

The market for corrugated board, one of the most versatile of packaging materials, is being further extended within the container field. The reason: hot-melt Epolene coatings.

Specifically developed for use in high-speed pressure curtain coating machines, Epolene coatings provide an effective barrier against moisture and grease, and are highly resistant to abrasion. In addition, these clear, high-gloss coatings flow on smoothly and uniformly, giving a finished surface that is attractive as well as durable.

Net result for manufacturers, converters, and users of corrugated board is the extension of this versatile material into packaging areas heretofore restricted to specialty cartons, lined containers or impregnated fiber board. Such areas include—

- packaging used for displays and sales aids;
- packages for perishable goods, for products associated with grease and oils, and for products needing protection against the abrasive action of the corrugated board itself; and
- cartons that must hold up under adverse shipping and weather conditions.

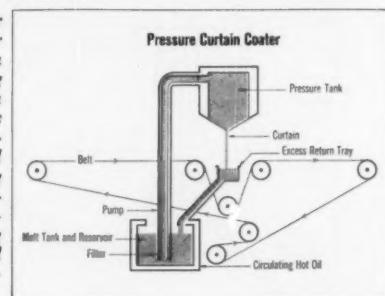
Hot-melt Epolene coatings can be economically applied at high speeds to almost any die-cut corrugated board. The coatings are tough and flexible, do not flake, and in addition can be heat-sealed by fast, electronic techniques.

The latest types of coating machines, including the Steinemann Pressure Curtain Coater, are operated at Eastman's Customer Service Laboratories to help converters and manufacturers improve their coating methods and products. Samples of your own corrugated board (up to 12 inches in width and 6 feet in length) may be sent in for coating with Epolene hot-melts, then returned for your evaluation. For details of this service, contact your local Eastman representative. EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, KINGSPORT, TENNESSEE.



Among new types of equipment for coating corrugated board with hot-melt Epolene is the Steinemann Pressure Curtain Coater. This machine efficiently coats web or die-cut corrugated paperboard at rates from 100 to 950 feet per minute, depositing a film from 1.0 mil to 15 mils thick. In the photograph, $\frac{1}{8}$ -inch corrugated board sections are being coated with Epolene hot-melt at 350°F.

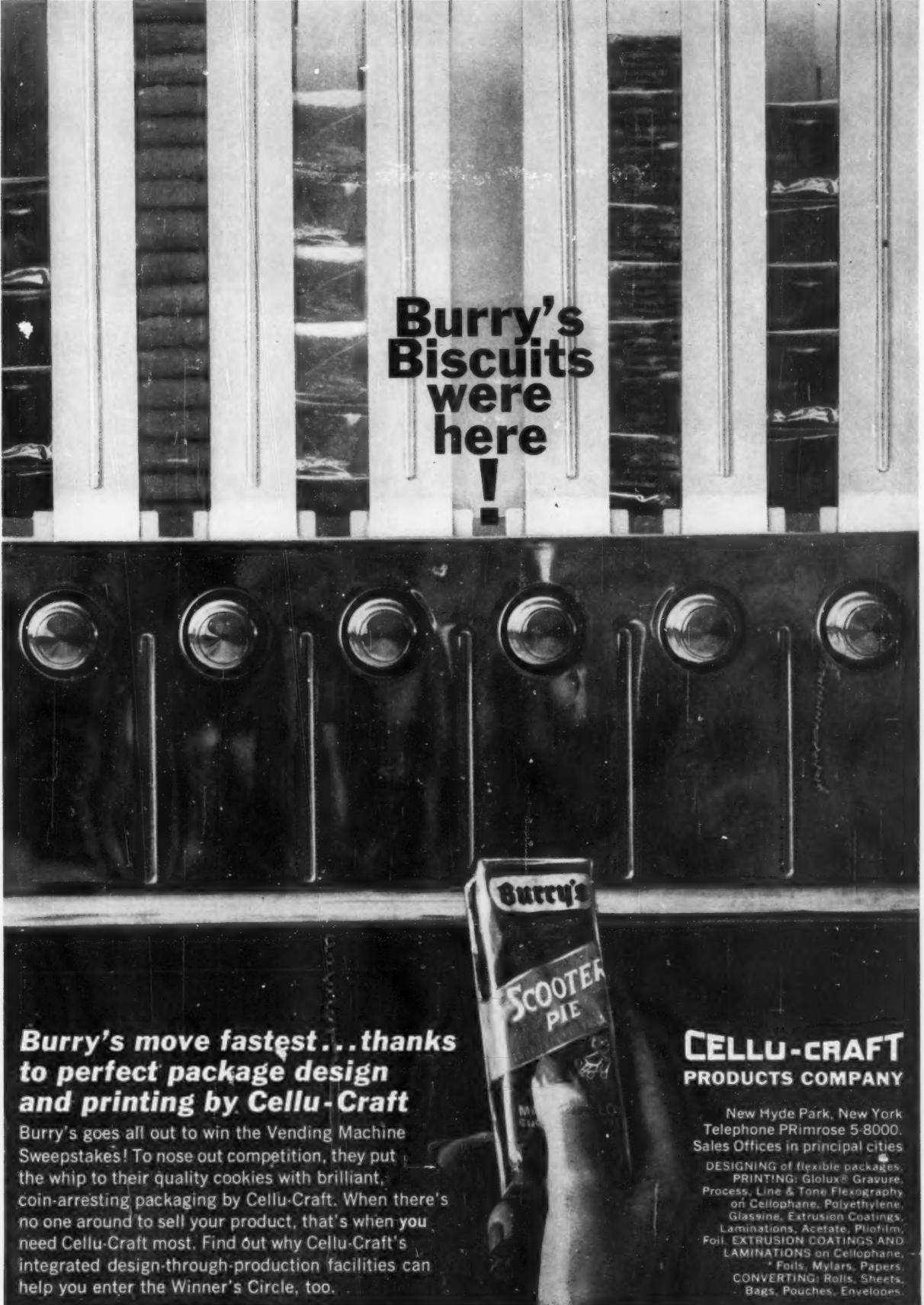
The pressure curtain coater conveys corrugated web or cut stock through a curtain of molten Epolene. Coating material dropping through die-cut holes or around edges of stock is collected and reused. Since the corrugated board is die-cut before being coated, the broke can be salvaged. Thickness of the coating is regulated by adjusting the speed of the conveyor and the amount of coating material pumped to the head.



Epolene®

Eastman polyolefin resins for high-speed, hot-melt coatings

SALES OFFICES: Eastman Chemical Products, Inc., Kingsport, Tennessee; Atlanta; Boston; Buffalo; Chicago; Cincinnati; Cleveland; Detroit; Greensboro, N. C.; Houston; Kansas City, Mo.; New York City; Philadelphia; St. Louis. **Western Sales Representatives:** Wilson & Geo. Meyer & Company, San Francisco; Los Angeles; Salt Lake City; Seattle.



**Burry's
Biscuits
were
here
!**

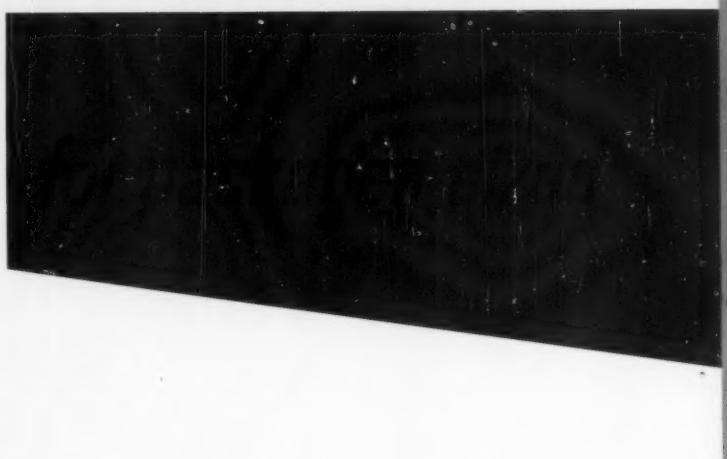
**Burry's move fastest...thanks
to perfect package design
and printing by Cellu-Craft**

Burry's goes all out to win the Vending Machine Sweepstakes! To nose out competition, they put the whip to their quality cookies with brilliant, coin-arresting packaging by Cellu-Craft. When there's no one around to sell your product, that's when you need Cellu-Craft most. Find out why Cellu-Craft's integrated design-through-production facilities can help you enter the Winner's Circle, too.

**CELLU-CRAFT
PRODUCTS COMPANY**

New Hyde Park, New York
Telephone PRImrose 5-8000.
Sales Offices in principal cities

DESIGNING of flexible packages.
PRINTING: Glolux® Gravure,
Process, Line & Tone Flexography
on Cellophane, Polyethylene,
Glassine, Extrusion Coatings,
Laminations, Acetate, Pliofilm,
Foil. EXTRUSION COATINGS AND
LAMINATIONS on Cellophane,
Folks, Mylars, Papers.
CONVERTING: Rolls, Sheets,
Bags, Pouches, Envelopes.



to every size family

marathon

"Family size" packages are fine salesmen—when they *vary* in size. Single people, newlyweds and retired couples buy in smaller quantities; those with growing broods go for bigger bundles.

As a leading supplier of food packaging, Marathon knows how to appease this shopper preference... how to design

colorful packages that cash in on the growing "make it *my size*" market.

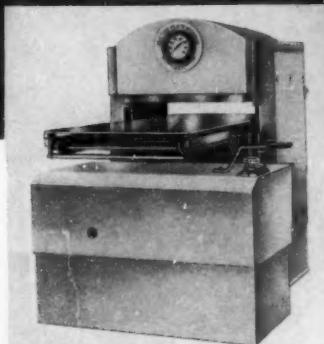
Whether you want to "proportion" your products in paper, paperboard, film or foil, just remember: when it's packaging... *Marathon has the answer.*

Marathon, A Division of American Can Company, Menasha, Wisconsin. In Canada: Marathon Packages Limited, 100 Sterling Road, Toronto 3.



For packaging...and ideas...

you can't beat marathon 



**WILLIAMSON
QUALITY
SCORES HIGHEST
IN MAKING
FLEXOGRAPHIC
PLATES and
BOX DIES**



WILLIAMSON & COMPANY INC.

Caldwell, New Jersey

Sales and Service Coast to Coast and Canada -- Bryan, Ohio • Atlanta, Georgia • San Mateo, California • Dallas, Texas • Grimsby, Ontario, Canada

On target every shot! In fact, the unquestionable leader of the field for over 15 years. For only Williamson gives you equipment of such uncanny accuracy . . . material formulated with such perfection . . . and the most expert technical service. Yes, only Williamson gives you the highest standards of excellence for all three! Why settle for less? Take advantage of Williamson performance and expert-ability when you aim for quality! Contact your Williamson Sales Service Specialist.

Flavor saver!



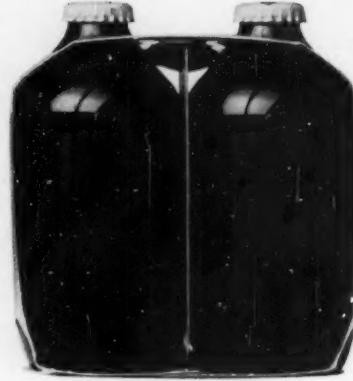
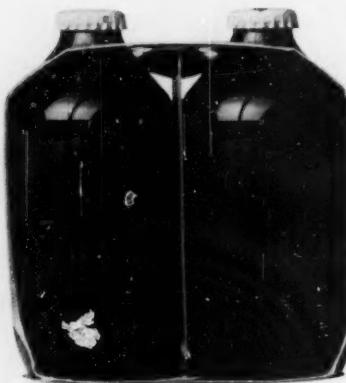
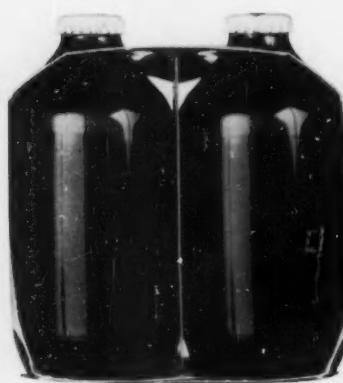
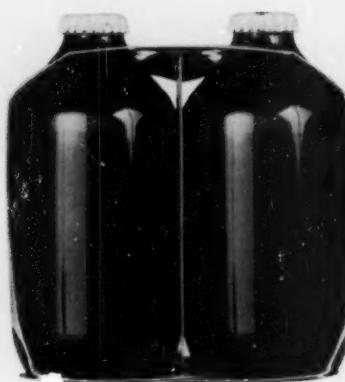
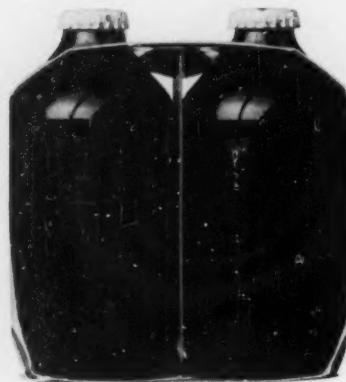
Celon Bands not only seal—they sell!

Package perfectionists like Kraft get double duty out of Thatcher's Celon bands. First, the assurance of a cellulose seal that prevents leakage, eliminates tampering, and locks in flavor. Second, the extra selling impact of a colorful sales message where it can't be missed—right on top.

Send us your bottle; we'll return it to you sealed with a specially designed Celon closure for your inspection. No charge for this service. Write THATCHER CELONS, Muscatine, Iowa. *A good package is a great Idea.*

Thatcher

THATCHER GLASS MANUFACTURING COMPANY
375 Park Avenue New York 22, New York
CELON DIVISION, Muscatine, Iowa PLASTIC CONTAINERS, New York, N.Y./MCKEE DIVISION, Jeannette, Penna.



WHICH ONE COMES FROM FIBREBOARD?

Which carton was created by a team of beverage specialists — including designers and draftsmen, salesmen and scientists? Which carton comes from the company where every major industry is covered the same, sensible way: by teams of experts in that specific field? Which carton, in short, comes from Fibreboard? Your customers can pick it out — and do.

The carton from Fibreboard is Fibresix... the brand-new home for beer that offers more display area (in the end panels where it is needed!), ships safer, cuts packaging costs. Shouldn't your cartons come from this kind of company? Write: Fibreboard Paper Products Corporation, 475 Brannan Street, San Francisco. (Also New York, Chicago, Los Angeles, other major cities.)

We'll send you one test roll of "V" cellophane, one 4¢ stamp, one sheet of paper, one self-addressed envelope and one pencil.



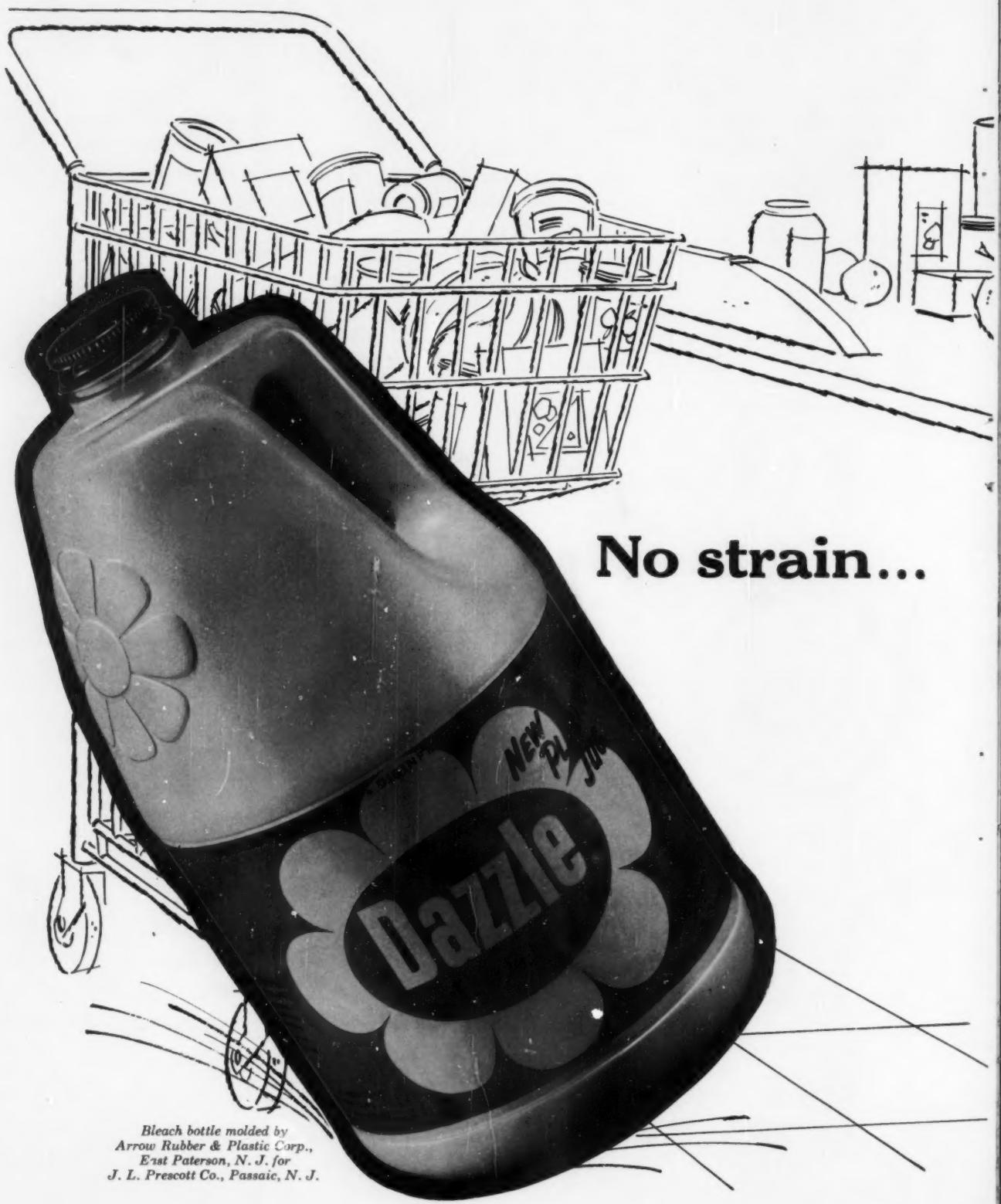
Run the cellophane off on your own equipment. Or on your converter's. If you don't find that it's the best cellophane ever made for premium baked foods, write us a nasty letter. (It won't even cost you a 4¢ stamp.)

We think you'll find that "V" prints, machines and seals with the bare minimum of production problems. That its shelf appearance has the magic for turning a stray glance into an impulse. And "V's" polymer coating—virtually unaffected by the heat and chemicals of printing—shuts in needed moisture, along with all the tang and savor you've put into your product. It's so good at this, in fact, that we actually believe you'll end up sending us a *complimentary* letter.

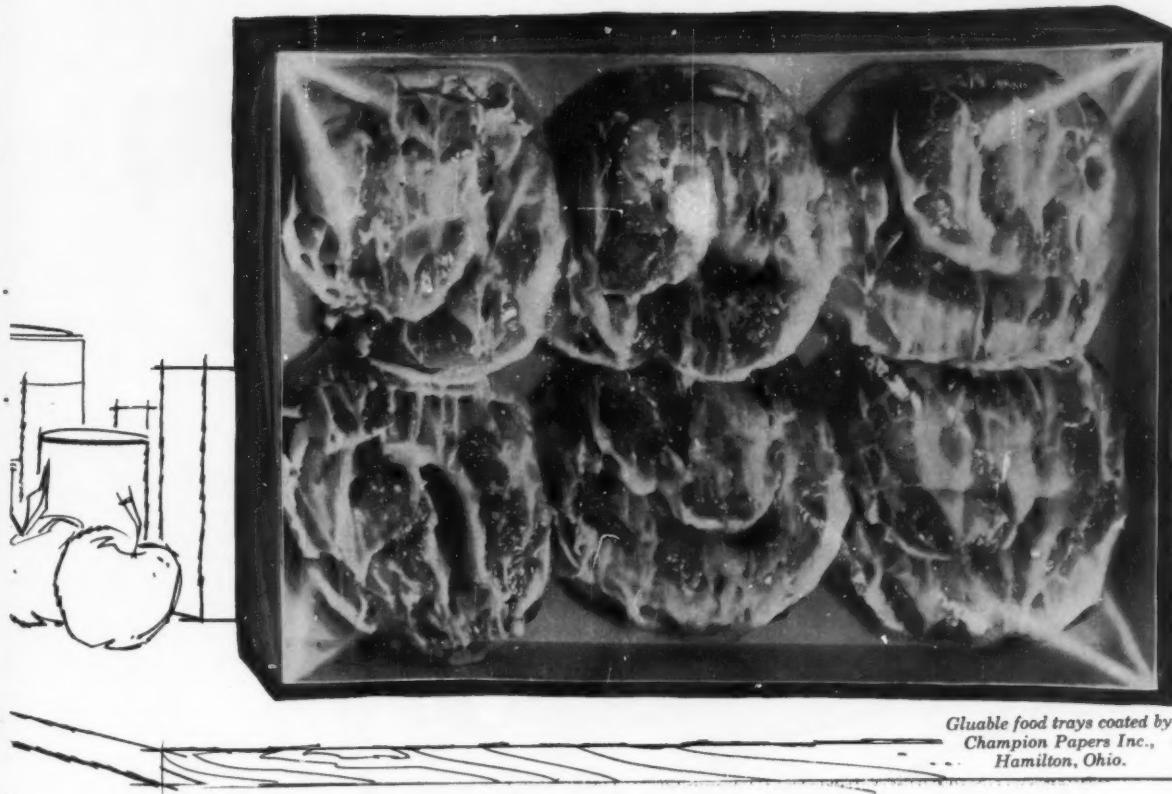
But don't do it just to be nice.

Test rolls supplied through any Olin sales representative or your converter in accordance with our usual policy.

PACKAGING DIVISION **Olin**
Film Operations, 460 Park Avenue, New York 22, N.Y.



Bleach bottle molded by
Arrow Rubber & Plastic Corp.,
East Paterson, N. J. for
J. L. Prescott Co., Passaic, N. J.



*Gluable food trays coated by
Champion Papers Inc.,
Hamilton, Ohio.*

no stain...

with ALATHON®

the polyethylene resins that bring new versatility to packaging

Stop, look and eyes glisten—that's what happens to consumers when they see your package utilizing one of Du Pont's ALATHON polyethylene resins. It's no accident that the unbreakable bleach bottle is blow-molded of ALATHON . . . that the stain-proof bakery tray is coated with ALATHON. Name the properties your package needs to keep the product safe and sellable—

For molding applications there's high impact strength, light weight, stiffness, resistance to stress cracking and faithful reproduction of all mold details, and antistatic compounds for less dust attraction.

For coating applications there's resistance to moisture and grease, strong heat seals, perma-

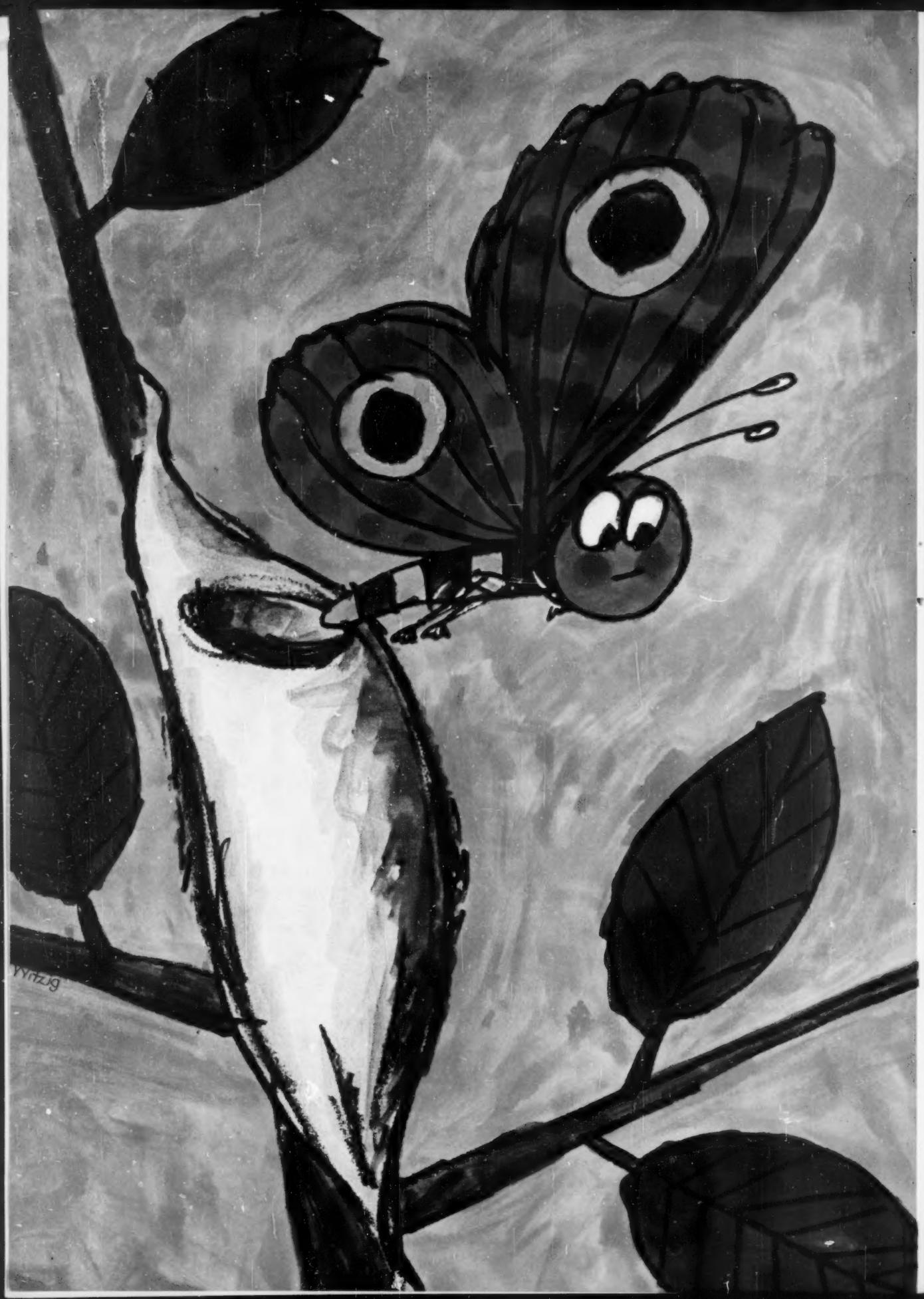
nent adhesion to substrate and high gloss for outstanding appearance. Polyethylene coatings specially treated for gluing now permit converters to use standard gluing machines.

Whatever your packaging need, you can be sure of a resin designed for your particular application when you include a Du Pont ALATHON polyethylene resin in your package planning. Contact your supplier to help you select the particular formulation of ALATHON that will best do the job for you. Or write to: E. I. du Pont de Nemours & Co. (Inc.), Dept MPA-9, Room 2507A, Nemours Building, Wilmington 98, Del. *In Canada: Du Pont of Canada Limited, P. O. Box 660, Montreal, Quebec.*

**POLYOLEFINS DIVISION
POLYCHEMICALS DEPARTMENT**

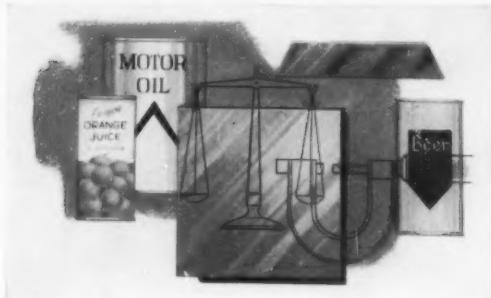


BETTER THINGS FOR BETTER LIVING
... THROUGH CHEMISTRY



The PeRFecT CONTAINER doesNT just HappEN!

Q UITE a jump from bug to butterfly! But Mother Nature designed the cocoon to do the job perfectly. Another container that does what it's supposed to do . . . best!



New economies for can users.

In packaging, Canco containers of light-weight plate do what they are supposed to do . . . best!

The Steel Industry's recent perfection of double reduced plate first made these new light-weight containers possible. Canco Engineers spent months in intensive research adapting the new plate to containers meeting all of Canco's rigid specifications.

Widely used by frozen juice concentrate packers, brewers and oil refiners, these new containers could cut cost for the brewers and refiners alone by \$10 million a year.

Test packaging of many other items in light-weight containers is now underway in our laboratories. A cost-reducing light-weight can may be the perfect container for your product. Get the details soon from your nearest Canco Sales Office.

GREAT CONTAINER IDEAS COME FROM

CANCO
CANCO DIVISION
AMERICAN CAN COMPANY

Niemand Bros. for

Fresh

Ideas

IN TUBULAR PACKAGING



Exciting things begin to happen when Niemand Bros. tackles a packaging assignment. Each of the five popular products pictured here posed a unique marketing problem. Through the combination of advanced paper, plastic and foil techniques, each package was functionally designed and manufactured, according to its individual requirements, to become a model of efficiency.

A Niemand Bros. practical, attractive and economical package can help promote the personality of your product, too. We invite you to consult with our design and development staff without obligation.

niemand bros. INC.

45-08 94th St., Elmhurst 73, Long Island, N. Y., TW 8-1616.

Teletype New York 4-1032

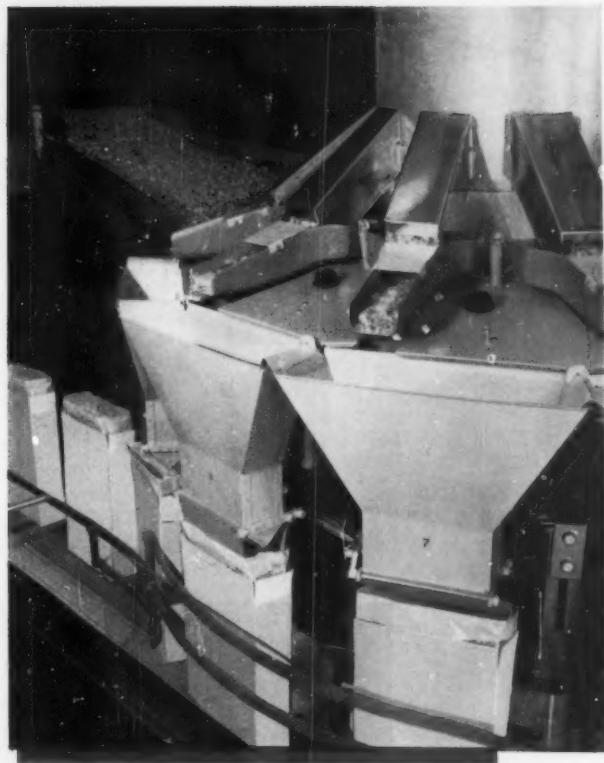
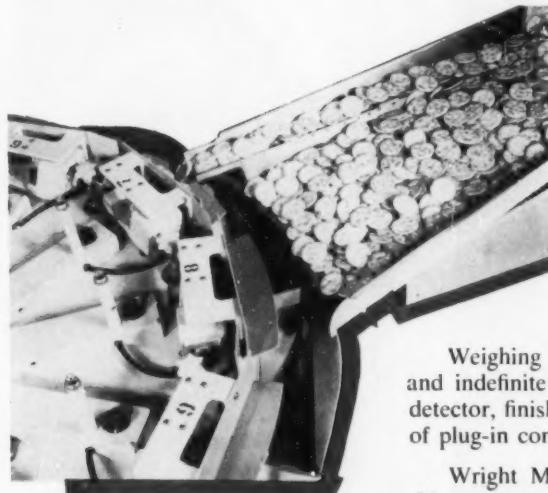
Manufacturers of



Tubular Packaging

WRIGHT NT Weigher

Rotary net weigher surpasses all other machines for packaging in cartons the total output of a continuous production process.



Dry cereals, crackers, and similar products can now be packaged more accurately at higher speeds with the Wright NT Weigher.

This system consists of (1) straight line carton conveyor, (2) controlled bulk feeder, and (3) rotating turret with 12 electronic weighing heads, each having a finish-fill feeder and bucket. *One attendant can monitor several systems.*

Weighing heads are transistorized for compactness, reliability, and indefinite life. Each weighing head contains its own complete detector, finish-fill feed relay, and rectifier, with all components being of plug-in construction for quick servicing.

Wright Machinery Company engineers are available to custom this system to your particular requirements. Update your packaging line now.



*Packaging Machinery
Since 1893*

**WRIGHT MACHINERY
COMPANY**

DIVISION OF SPERRY RAND CORPORATION DURHAM, NORTH CAROLINA

MAIL THIS COUPON
FOR COMPLETE INFORMATION

MP

Gentlemen: Please send me technical details on your new Wright NT Weigher.

NAME.....

COMPANY.....

ADDRESS.....

PRODUCTS.....

April, 1961 Consumers Report says ...

"The mechanisms (valves) were so designed that they could trap some topping in the nozzle where it could spoil and contaminate successive ejections."

NOT TRUE...

WHEN YOU USE PRECISION'S UPSIDE-DOWN VALVE



The new upside-down valve from Precision is constructed so that the spout may be opened and cleaned by merely holding it under the faucet. No contamination is then possible, and it allows complete evacuation of all the product in its original pure form time after time.

Just one more example of that extra care and attention to detail you get with all Precision valves. It's the quality and know-how that assures you of satisfied customers!

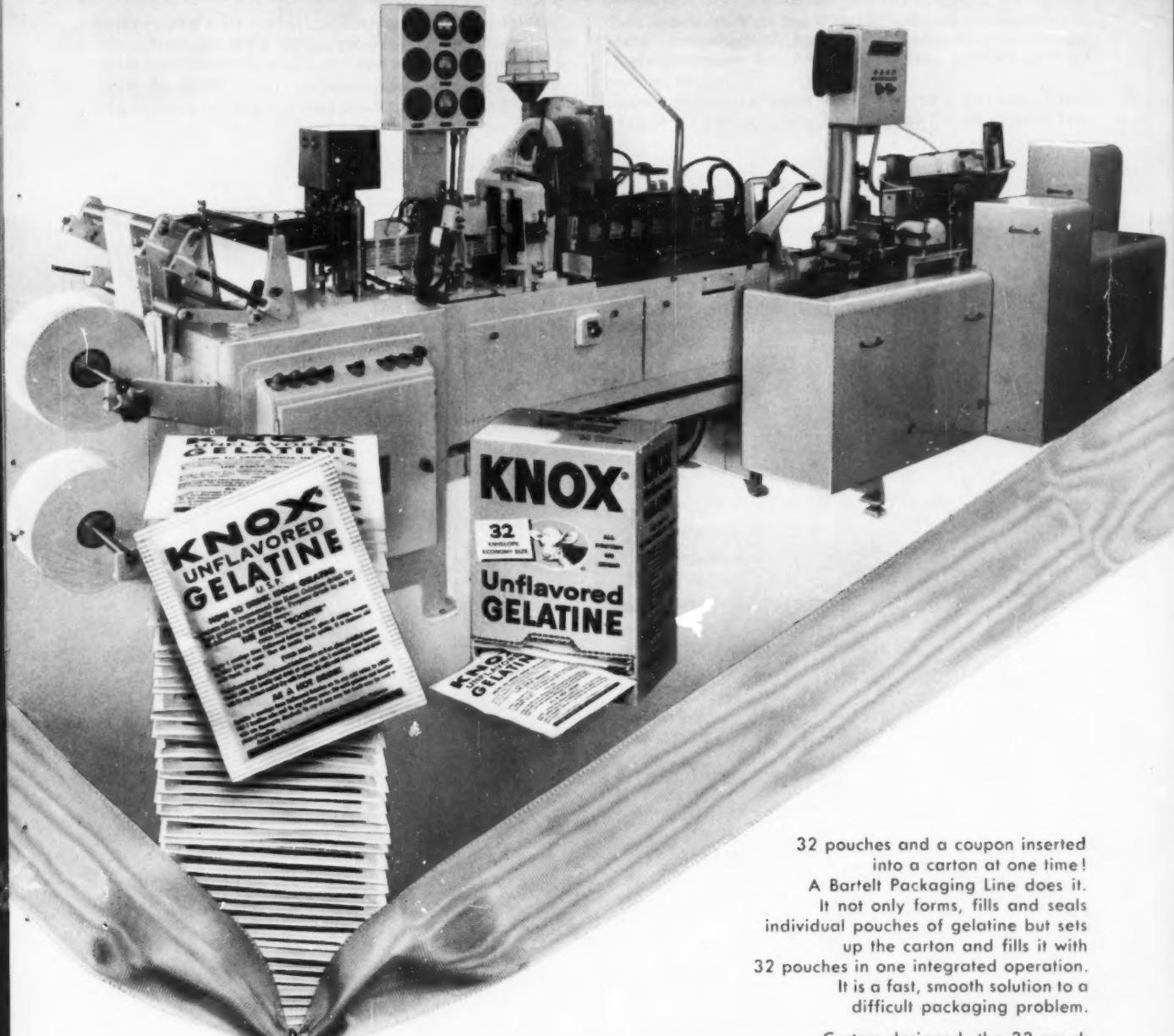
Take care, take Precision valves for your aerosol products.

PRECISION VALVE CORPORATION
700 NEPPERHAN AVENUE, YONKERS, N.Y.



Riegel

Creative Climate for Tomorrow's Packaging



the new ideas
come from

Riegel

32 pouches and a coupon inserted
into a carton at one time!

A Bartelt Packaging Line does it.

It not only forms, fills and seals
individual pouches of gelatine but sets
up the carton and fills it with
32 pouches in one integrated operation.

It is a fast, smooth solution to a
difficult packaging problem.

Custom-designed, the 32-pouch
Knox Packaging Line is a good example of creative
engineering by Bartelt, a Riegel subsidiary. The
special pouch material is also tailor-made by Riegel.

Whether you need greater packaging machine
efficiency . . . or eye-stopping sales appeal . . .
or quality-protection for food products . . . or greater
packaging economy . . . Riegel can help you.

The next few pages may give you ideas.

RIEGEL PAPER CORPORATION, 260 MADISON AVENUE, NEW YORK 16, NEW YORK
Specialist in the packaging of foods, drugs, and soft goods
Flexible packaging...carton board...folding cartons...carton liners

Dramatic package for "Tiger's Milk" Cookies gives Burry a running start in new market

Burry Biscuit Corporation chose Riegel for both design and production of this colorful orange and black cellophane wrap for "Tiger's Milk" cookies... protein and vitamin-enriched.

Burry's new unit is an example of Riegel's ability to design and produce both protective and sales-boosting packages.

We've a flair for thinking of every product as something special... and developing for it the one best packaging answer... be it film, pouch paper, glassine, foil, or combination... printed, coated or plain. Write for more information today... for the new ideas come from Riegel.

Flexible Packaging Division
RIEGEL PAPER CORP., 260 Madison Ave., NYC 16
Flexible packaging materials for
foods, drugs, chemicals



For soft-goods packaging see Riegel-Lassiter...

a specialized design and production service

Packaging for soft goods is a specialized art . . . one that calls for a knowledge of the textile industry's particular marketing and production needs.

Lassiter offers you an award-winning design service . . . backed by modern production facilities in film, foil, paper and folding cartons . . . all devoted exclusively to soft

goods. Lassiter men are aware of your sales and production requirements. That is why you can be sure a Lassiter package is right for your markets . . . right for your production set-up.

You will benefit from a talk with a Lassiter soft-goods packaging specialist. Write or phone today.

Lassiter Sales

RIEGEL PAPER CORP., 350 Fifth Ave., NYC 1,
Designers and producers of film, foil, paper and
paperboard packaging, inserts, riders, labels, bands and tags.

LASSITER
Riegel Paper

SPECIALISTS IN
SOFT GOODS
PACKAGING

PAPERBOARD INSERTS,
LABELS & TAGS

POLYETHYLENE BAGS

CELOPHANE ENVELOPES

PAPERBOARD ENVELOPES

BOX WRAPS & PRINTED TISSUE

FOLDING CARTONS



Almar Rainwear...a colorful new packaging idea made brighter by Riegel Foldcote®

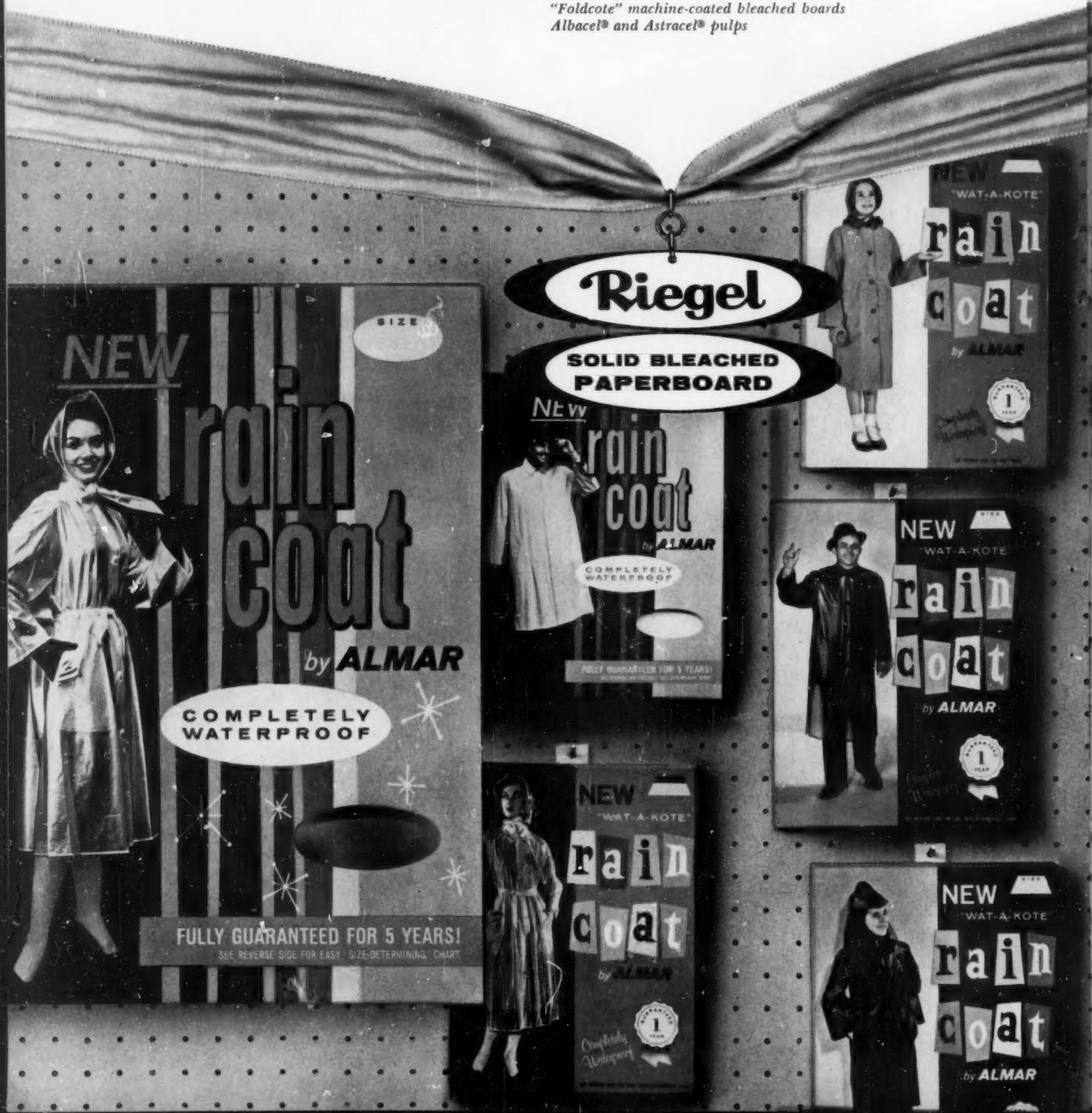
Eye-catching cartons of "Foldcote" boost impulse sales for inexpensive vinyl raincoat. Beautifully printed to identify the style... die-cut to show coat color... and the strength of "Foldcote" provides a simple rack hang tab.

Try Riegel's outstanding new full-bleached carton stock "Foldcote". Super-white for color brilliance, super-smooth

for high fidelity reproduction, super-strong for rugged, rigid packages that keep that clean look.

Your future, too, can be brighter with "Foldcote". Ask for samples and information. Ask too, about other Carolina solid bleached boards. Export inquiries invited. Call Riegel today... for the new ideas come from Riegel.

Pulp and Paperboard Division
RIEGEL PAPER CORP., 260 Madison Ave., NYC 16
"Foldcote" machine-coated bleached boards
Albacel® and Astracel® pulps





BARTEL

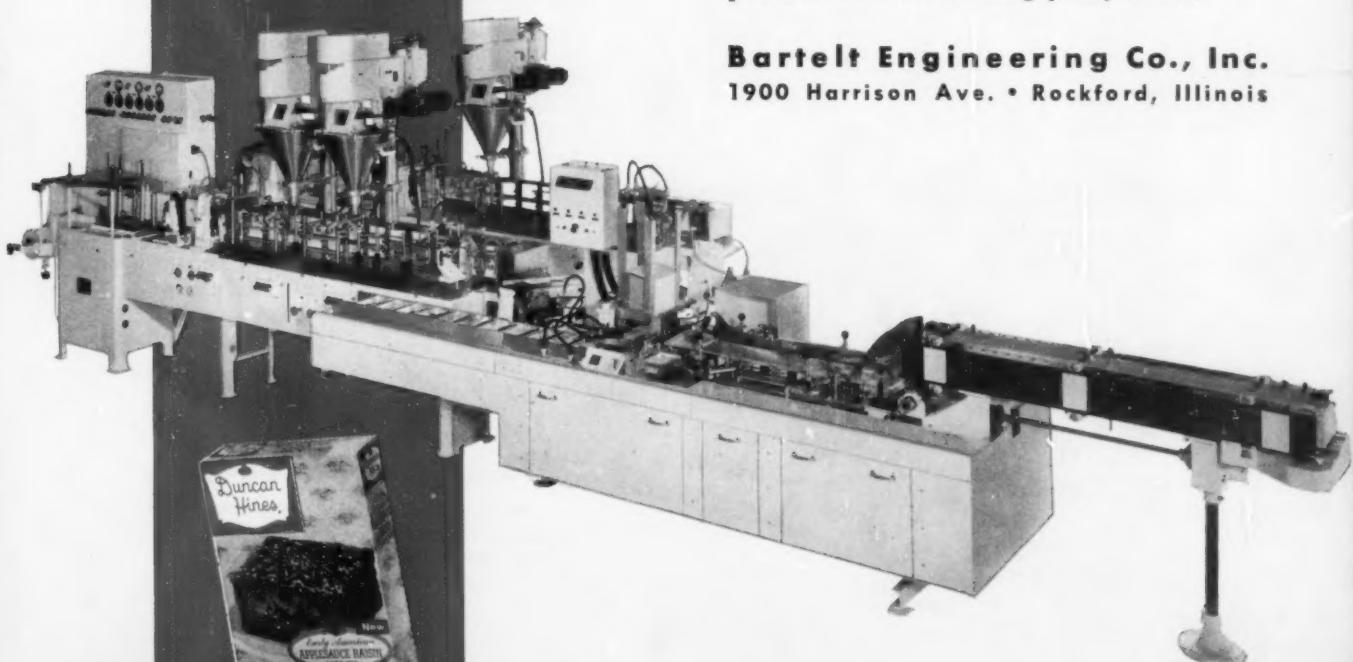
**packaging machinery
is on the job for...**

Duncan Hines®

For the packaging of their Duncan Hines line of prepared mix products . . . Procter & Gamble uses Bartelt Automatic Packaging Machinery.

Where package production must yield consistent quality . . . where package standards must build solid consumer acceptance . . . where specialized needs demand creative engineering, Bartelt know-how is at work. Bartelt machinery is providing distinctly superior packaging for the finest of products . . . where unfailing quality counts.

Bartelt Engineering Co., Inc.
1900 Harrison Ave. • Rockford, Illinois





SWIFT'S ADHESIVES
FOR PROFIT

In Packaging...

**THE RIGHT ADHESIVE
IS LIKE THE RIGHT
PRODUCTION MANAGER**

Maybe you can't compare apples and oranges, and most likely no one wants to be compared with an adhesive. But the *right* production man and the *right* adhesive can have an important effect on profits.

The right production manager not only cracks the whip, he applies an intimate knowledge of his men and machines to a production process calculated to turn out a quality product . . . at maximum profit.

Similarly, to contribute to *profitable* production, the right adhesive must do more than just adhere.

Swift's hundreds of resin adhesives for packaging are specifically formulated to offer the user *selectivity* in speed, machine-ability and tack characteristics. They are high in strength, strong in tack, long in machine-ability—and many are versatile too.

Don't overlook the profit opportunity in properly specified, properly used packaging adhesives. *Swift* is the informed source for prompt, courteous, and *authoritative* service. 24 strategically located Swift adhesives plants produce a complete line of packaging adhesives for the most specific applications. Call your nearby Swift Adhesives Specialist, or write for further information. Swift & Company, Adhesive Products Department, 115 West Jackson Blvd., Chicago 4, Illinois.

To Serve Your Industry Better

WITH THESE ADHESIVE PRODUCTS

RESINS AND RUBBERS IN EMULSION OR SOLVENT;
DRY, LIQUID AND FLEXIBLE ANIMAL GLUES
LIQUID DEXTRIN ADHESIVES

A-59

NO FLAVOR FADE AWAY!



...WITH MILPRINT GAS PACKAGING MATERIALS! Subtle flavors, colors, aromas, nutritional values—the very elements that give your product its unique character—are first to be attacked by the oxygen in air normally present in food packages! Gas packaging prevents this flavor fadeaway by replacing air with nitrogen, carbon dioxide or other inert gasses during packing . . . so your product reaches your customer exactly as you intended it should. (And gains a new lease on shelf-life and customer satisfaction as well!) Milprint research adds laminated gas packaging materials to the thousands of custom-built combinations developed to meet specific marketing needs in more than 60 years of serving America's best-known brands. *No other source offers so wide a material variety, so many printing processes—or so much experience in creating packaging "firsts!"*

Plan now to review your packaging regularly with Milprint experts . . . learn how

**MILPRINT
PACKAGING**

gives your product
MARKETING POWER

Milprint Inc. General Offices, Milwaukee, Wis.
Sales offices and plants conveniently
located across the nation.



Hollywood Brands looks to Lynch BK for pilfer-proof pay-off at the supermarket

NEW BK AUTOMATES, SPEEDS CARTONING OF CANDY BARS, SIMILAR SMALL PACKAGES AND CARTONS IN MULTI-PACKS

24,000 glued-end six pack cartons every 16 hours are flowing into supermarkets for the first time from Hollywood Brands, Inc. plant at Montgomery, Alabama.

In operation since January, the versatile Lynch BK "has given us uninterrupted production, no down-time, and a smooth, profitable operation," reports Hollywood Brands vice president, Mr. Ray Harms.



FEED WITH YOUR EXISTING MACHINES OR HIGH SPEED LYNCH BAR WRAPPERS

When fed by two Lynch automatic wrapping machines, the new BK at Hollywood Brands handles the 115 bar production per minute of each, to provide complete automation with maximum saving of time, labor and materials.

UNMATCHED VERSATILITY

Several optional infeed and stacking features . . . single or double layer stacking from left or right side infeeds—or both.

BK duplicates double layering action from both sides to produce as many as four layers . . . or feeder sections position on each side to feed simultaneously for double layer only.

SMOOTH AT ANY SPEED

A *constant stroke machine*, the BK requires no adjustment or slide strokes, and owes its utter smoothness of operation at all speeds to this advantage.

AUTOMATIC STOP AND START

A break in product flow stops BK instantly and automatically, resumes operation when supply is replenished.

SELF-PROTECTING

Torque limiter minimizes damage to component parts in case of overload or jam. Constant product backlog is assured by time delay relay circuit with separate switch for automatic start and stop.

CARTON PRE-BREAK

Scores are broken mechanically and precisely in separate loading station operation, assuring proper set-up. Vacuum carton feeder starts blank into the train. Adhesive application is also completed prior to product feed.

CARTON ECONOMY

BK cartons save money. No end-panel tuck-in flaps to cause board waste. Economical die cut for lowest carton blank cost.

CARTON DIMENSIONS

Any within following dimension ranges: Minimum—Length 2½", Width 5½", Height ½". Maximum—Length 5", Width 11", Height 2½".

FOR IRREGULAR SHAPES, Lynch provides its new, higher speed Wrap-O-Matic machine for integrated operation with the BK. Ask the Lynch engineers to show you how it can fit into your operation.

SEND TODAY FOR "BK" BAR CARTONING, "BW" BAR WRAPPING OR WRAP-O-MATIC LITERATURE



LEADERS LOOK TO LYNCH

FOR MACHINES THAT PACKAGE ALMOST EVERYTHING
Manufacturing Engineers of automatic processing equipment in the glass, packaging, plastic and other industries.

ATLANTA • CHICAGO • SAN FRANCISCO • ENGLEWOOD, N. J.

Look
what's new
in toiletry
packaging



NOW A THREE-OF-A-KIND LOOK. This smart new package serves the complete line of Schick products . . . offering the same fresh look for pre-shave, after-shave, and shaver cleaner. Only the label is different. By standardizing on one bottle and cap, the customer got a family appearance for all three products and saved money besides. This Armstrong bottle and new "Swirl" design stock cap solved a packaging problem for Schick. Can we help solve one for you?

Armstrong PACKAGING

WATCH ARMSTRONG CIRCLE THEATRE EVERY OTHER WEDNESDAY EVENING ON CBS-TV

Background for Packaging

Notes, quotes and comments.

An editorial feature

Sidelight on the deceptive packaging ruckus: Several packagers of dry flaky products which tend to settle in the package after filling are reported to be training movie cameras on their packaging lines to show that packages are actually filled to capacity at this point. This is done, in at least one instance, by interspersing transparent containers of identical size, for purposes of the film record, with the regular paper containers. The principal defense, of course, is that the weight is accurate as stated on the label, but the film will answer consumers who question the slack space which appears at the top when the package is opened.

Great significance for packaging in Britain's decision to enter the European Common Market—particularly if, as seems likely, Britain swings the other six nations of the so-called Outer Seven group with her. This would create a giant European common market, of 13 nations with population of 300 million, having eventually no tariff barriers between them. This means that American packagers and package suppliers could have free access to this great market through facilities in England or any other of the 13 nations. Already, tariff walls in the Common Market have been reduced by 40%.

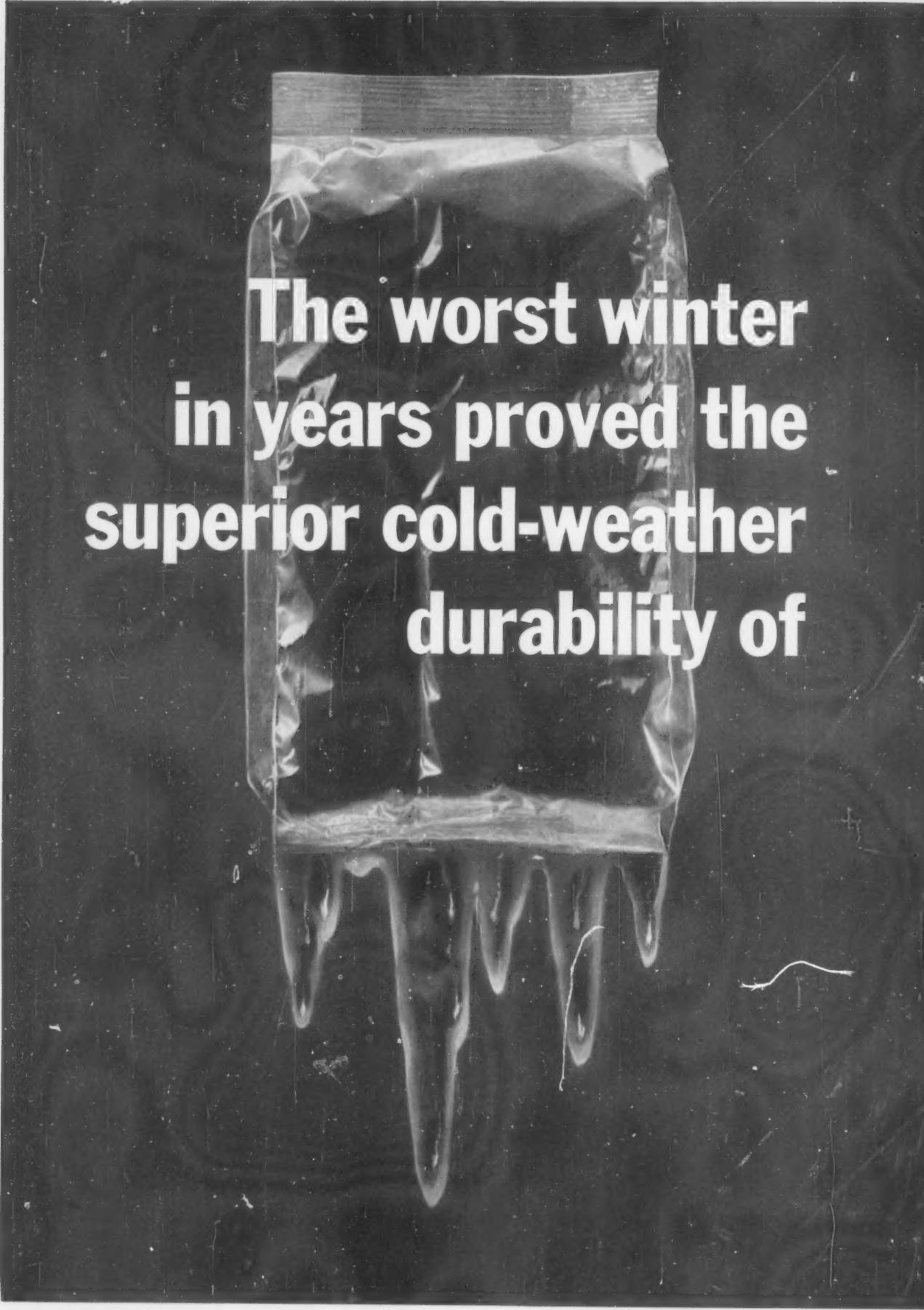
Note the movement, already under way, of leading U. S. producers of packaged goods into foreign markets by the acquisition of subsidiaries. General Foods alone has acquired four foreign companies since April 1 and estimates that 10% of the company's revenue in the current fiscal year will come from foreign operations, as against less than 4% three years ago. Latest GF acquisitions are Krema Hollywood, of Paris, a candy and chewing-gum producer, and Bertagni, of Bologna, maker of pasta and spaghetti.

Trend to vertical integration through mergers and joint enterprises is becoming international. The Metal Box Co., Britain's biggest can maker, will join Shell Chemical and National Distillers of New York in the manufacture in England of polypropylene film. This news came only 24 hrs. after Imperial Chemical Industries announced that it would link up with E. S. & A. Robinson, big Bristol paper-packaging concern, in a joint company, Robinson Plastic Films, to manufacture plastic films for packaging. The move by Shell is its first into the fabrication of packaging materials.

Watch for the announcement that a leading U. S. converter has purchased American and Canadian rights to a new type of cohesive-adhesive coating which has created a stir in Europe. Papers, foils and laminations coated with the material, which sticks only to itself, can be used with European machinery to make a complete folded and sealed wrap for objects like bar soap, without added adhesive or heat sealing.

Behind the story of General Motors parts-packaging redesign under a standard format and symbol, one of the most ambitious programs in history (see story this issue, p. 124), is increasing rivalry in the replacement-parts business with the second largest auto maker, Ford. Since it purchased the "Autolite" trade name from Electric Autolite Co. several months ago, Ford has intensified its promotion of parts in independent outlets and is itself regrouping and re-organizing parts packaging under the Autolite trade name. The Autolite story will appear in the October issue of this magazine.

Plastic milk carton made its debut in Chicago last month in a four-week test in one retail dairy-store chain. The vacuum- [Continued on page 44]



The worst winter
in years proved the
superior cold-weather
durability of



AVISCO® CELLOPHANE

Temperatures were below freezing. Thousands of trucks were delayed by deep snows. Many of these trucks carried products packaged in Avisco cellophane. How did this film perform in such abnormal cold? Wonderfully! While other films became brittle and breakage prevailed, Avisco cellophane remained tough. And little wonder. Prior to last winter, and without fanfare, an important improvement was made in the base sheet. It gave Avisco cellophane greater durability in below-freezing laboratory tests. *But only actual use under such severe conditions would prove this superiority.* Last winter did it—and in spades. If you were plagued by broken packages, plan now for the winter ahead. Choose the film with *proven* cold-weather durability—Avisco cellophane. Contact us for an appointment with our representative or a selected cellophane converter specializing in your field.



AMERICAN VISCOSÉ CORPORATION, FILM DIVISION, 1617 PENNSYLVANIA BLVD., PHILADELPHIA 3, PA.
SALES OFFICES ALSO LOCATED IN ATLANTA, BOSTON, CHICAGO, DALLAS, LOS ANGELES AND NEW YORK.

Background for Packaging

Continued from page 41

formed container, in a tapered rectangular shape, is formed in two halves, sealed at a center flange. There is a pour opening on top. The material is reported to be a rubber-modified super-high-impact polystyrene, with crack resistance down to zero deg. F. The container is low enough in cost for single-trip use. The initially tested 1-gal. size has no counterpart in paper.

The price of tin is up 17% since January and steel mills are due to raise wages Oct. 1. What effect will this have on the growing competition among tinplate, aluminum and foil-fibre cans? According to reports, aluminum producers (who also face increased wage costs) have decided to hold the price line, for the time being at least. Even with the new ultralight tinplate, it reportedly is doubtful if can-plate makers can avoid some price increase.

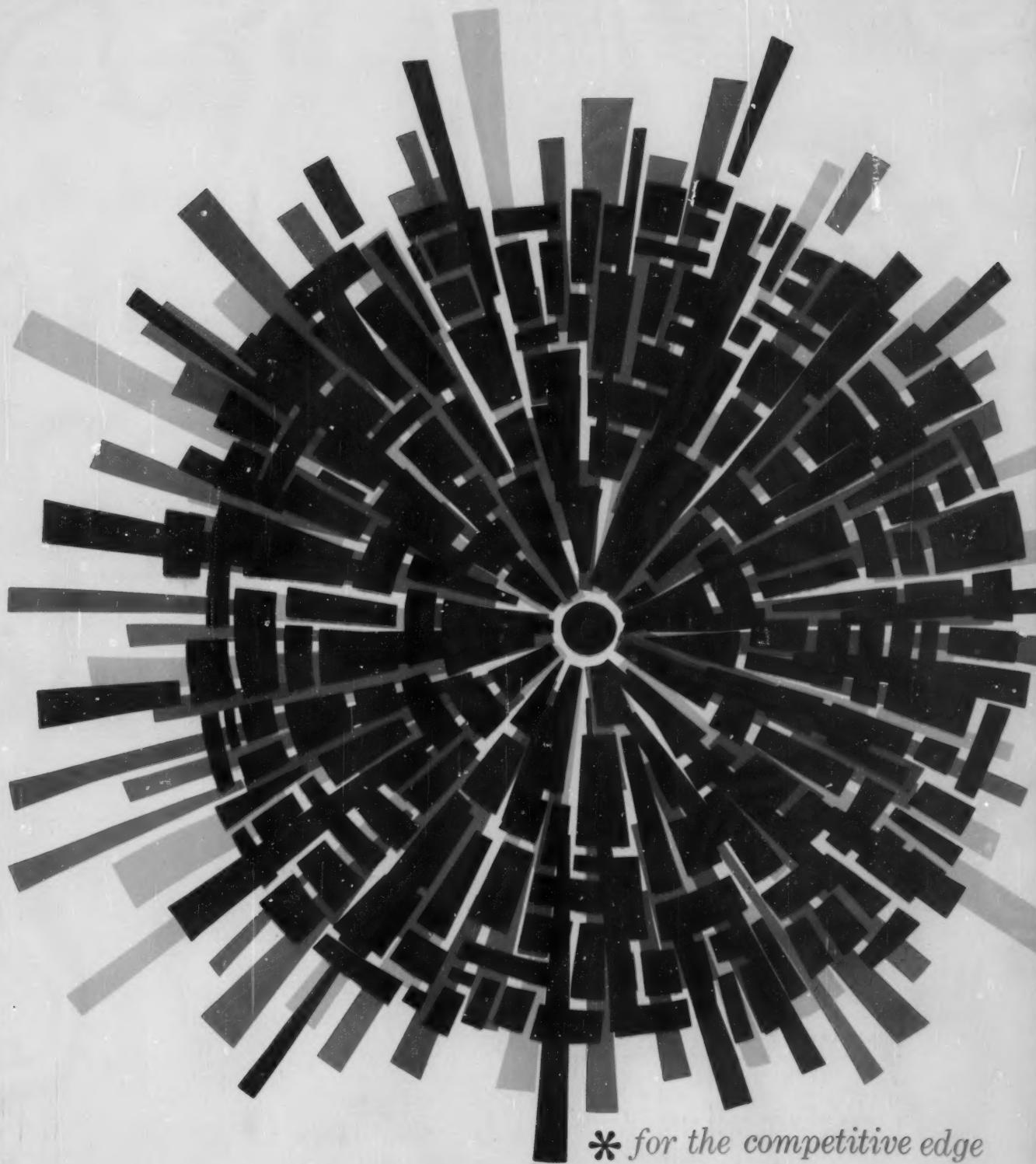
A strategic move in the battle between cans and one-trip bottles for the soft-drink market is American Can's surprise announcement that it is setting up, in six marketing areas, custom canning facilities for the use of all soft-drink companies. Customers will not be required to use Canco containers. The cost of setting up canning lines has been a principal barrier to cans' penetration in this field; bottles have the advantage of using existing facilities. This is Canco's first move into the service field and competitive moves can be expected in the future.

Report on polypropylene in the August issue of *Modern Plastics* contains many details of interest to packagers. One significant point: Despite the projected rapid growth of production capacity for polypropylene resin, no sudden over-capacity is likely to cause ruinous price cutting (as happened with polyethylene), because producers are moving cautiously, even buying resin from other producers for re-sale, until they know the characteristics of the plastic and its realistic markets. Projected 1964 market for polypropylene film and sheet is 45 million vs. 10 million pounds this year.

Good idea for all films is the meaningful code system now being used by cellophane producers. A prefix of three figures indicates the yield in square inches per pound, rather than gauge, which has become less meaningful with the introduction of various-yield cellophanes. Olin's former "300 MST-51," for example, is now "210 MST-51," with the 210 indicating a 21,000-sq.-in.-per-pound yield. Since cellophane prices are quoted by the pound, this permits quick and easy calculation of the material's actual packaging cost per square inch. Packagers have suggested that a similar system for plastic films would be useful.

Wall Street is looking at packaged-food companies with new interest as a result of the surprising recent comeback of dehydrated foods (MP, July '61, p. 89). Freeze drying, in particular, is regarded as a revolutionary new method of preserving food with utmost convenience in packaged form and *Value Line* survey says this could generate new profits for food producers who participate. While food consumption per capita holds steady, the population is growing and companies that promote convenience foods show excellent growth records through added value of products.

Distillers are watching Schenley experiment with a new half-case pack, designed to enable liquor retailers to avoid a split-case penalty charge—the extra cost they normally must pay when ordering less than a standard case of liquor. The half case, being tested in California, contains six quarts or six fifths or 12 pints or 24 half pints. Presumably, Schenley is absorbing the extra cost of shipping-case materials.



* for the competitive edge



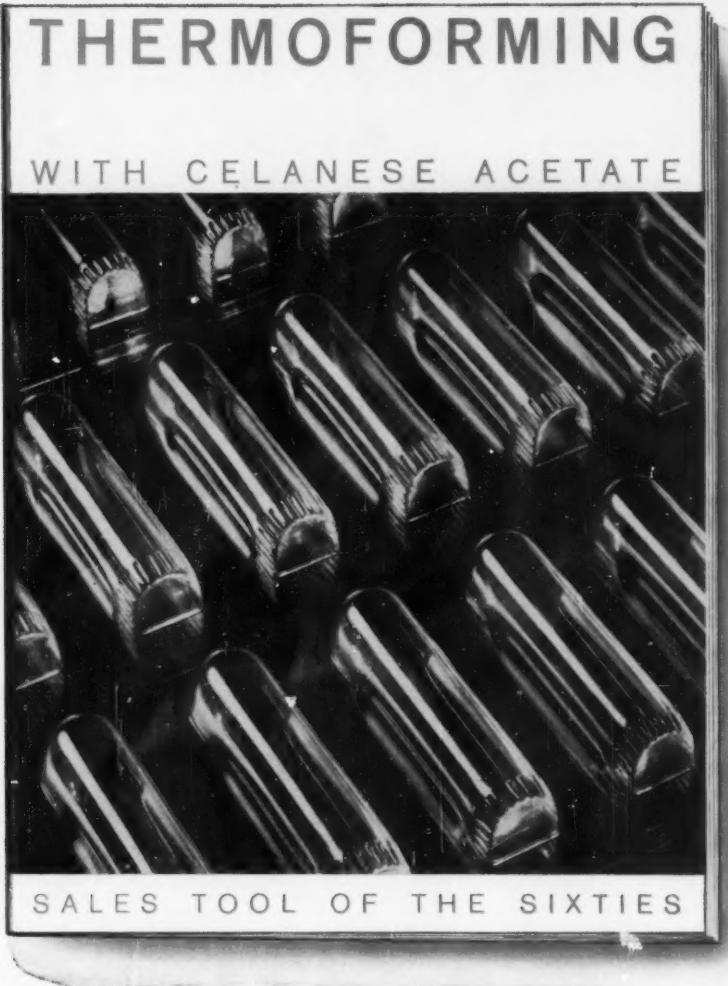
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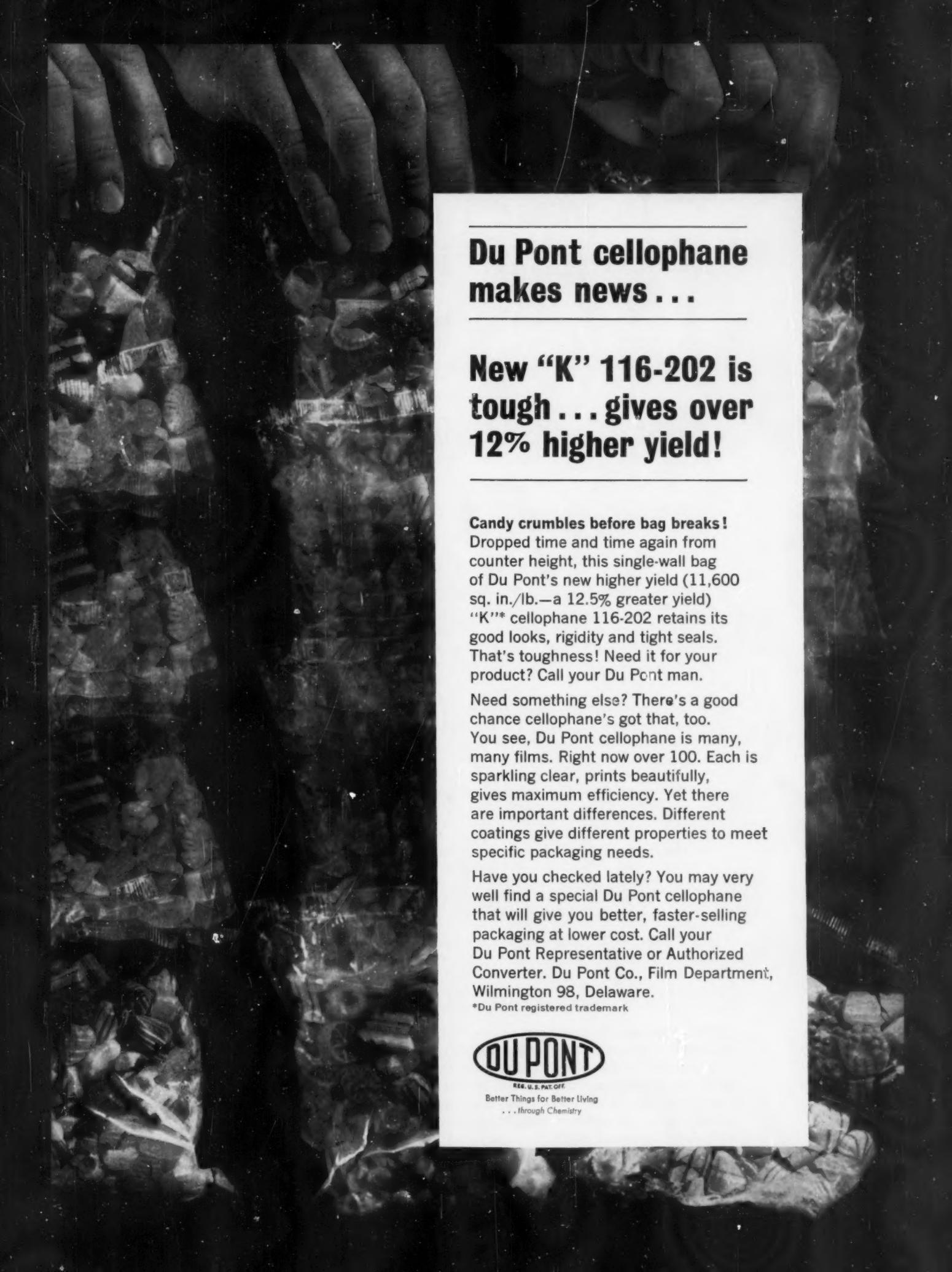
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New "K" 116-202 is tough . . . gives over 12% higher yield!

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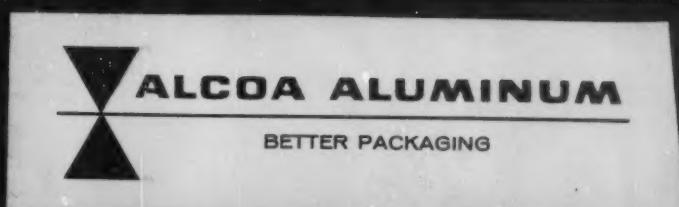
Alcoa's Pilferproof. It's rolled right on the bottle. Custom-threaded with a unique tamperproof feature . . . a locking band beneath the closure skirt. "Bridges" that connect the locking band with the closure skirt snap open with a slight twist, leaving the locking band secure on the bottle neck. This band cannot be removed easily. The aluminum Pilferproof provides manufacturers the most economical and effective guard against pilferage on the market today.

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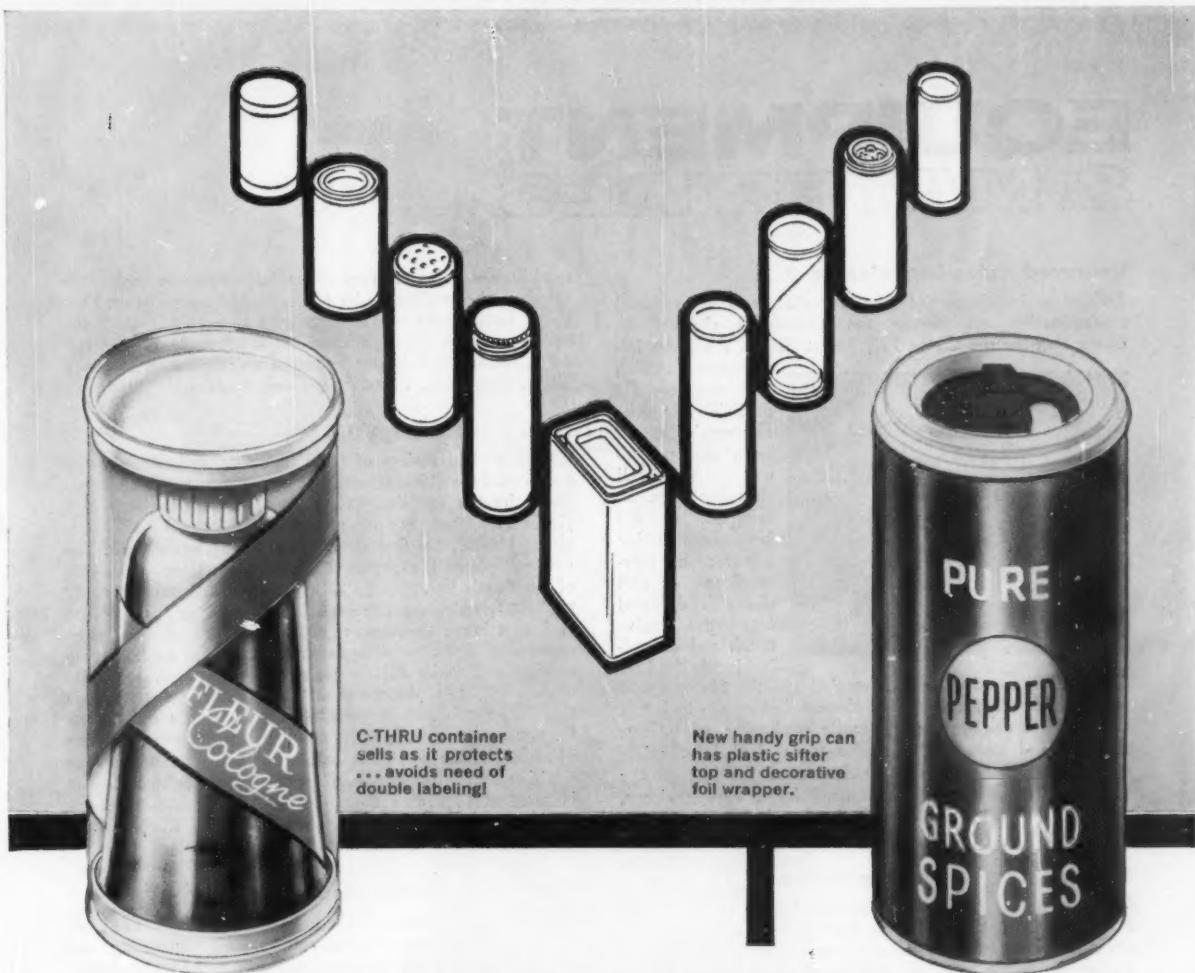
Alcoa's Hidden-Thread Cap was developed for those who desire the clean contour of a straight-sided cap and also want the added sealing abilities of aluminum whether it be for toiletries, drugs, cosmetics or pharmaceuticals. This cap is prethreaded, but in contrast to molded caps it will not crack or break, nor will it "back off" and leak for lack of frictional holding power.

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EQUIPMENT & MATERIALS

Improved valve-bag closure

Reduction in sifting of fine materials and in external contamination are among the advantages claimed by Chase Bag for the Chase Poly Insert Sleeve, a closure improvement which is commercially available in the company's line of sewn and pasted-end multiwall shipping bags. Illustrated is the key construction feature: a polyethylene film sleeve firmly fitted into the valve notch and extending inside the bag.



The flexibility and cling characteristics of the film are said to permit a tighter, self-sealing closure that results in better bag performance during automatic packaging operations, shipping and storage. Other advantages cited for the bag modification include: easy positioning of the bag on the filling tube, elimination of the need for a tuck-in sleeve, and positive moisture protection in the sleeve area. *Chase Bag Co., 355 Lexington Ave., New York 17.*

Machine for padded-top boxes

Padded-top boxes can now be produced on a new model of FMC's Stokesmatic. With this type of box, a soft, domed effect is achieved by including a cotton or wool piece under the wrap. On the machine, skeleton lids are formed, wraps are glued, and each are delivered separately to the wrapping machine where they are automatically registered, wrapped and delivered. The operation is automatic, the supplier notes, except for the placing of the padded piece on the glued label. After the operator positions the pad, a tamping device firmly adheres it to the label. The new model is said to match the speed of other Stokesmatic models and to cover the same range of box sizes. *FMC Packaging Machinery Div., Stokes & Smith Plant, 4942 Summerdale Ave., Philadelphia 24.*

New machine for tetrahedrons

Sweden's Tetra Pak has brought out a new machine for automatic production of formed, filled and sealed single-service tetrahedral containers for milk and other liquids or semi-liquids. Materials from which the tetrahedrons can be fabricated include any combination of paper, film and foil. The machine (Type 2) operates on the same principle as earlier Tetra Pak models. The material, delivered in rolls, is shaped into a tube as it enters the machine; the longitudinal seam is sealed; two pairs of jaws at right angles to each other shape and seal the tetrahedrons and sever them from the roll. An innovation in the new machine permits mechanical adjustment to produce containers ranging in capacity from 10 to 150 cc. at reported speeds of 40



into a tube as it enters the machine; the longitudinal seam is sealed; two pairs of jaws at right angles to each other shape and seal the tetrahedrons and sever them from the roll. An innovation in the new machine permits mechanical adjustment to produce containers ranging in capacity from 10 to 150 cc. at reported speeds of 40

to 120 per minute. Two other improvements make the tetrahedral container easier to open, says the supplier. Container head space can be regulated to permit tear-off top opening of the filled package (as illustrated) or the machine can apply a starter notch on a sealed seam to facilitate tear opening. *Tetra Pak, Lund, Sweden.*

High-yield cellophane

A higher yield variety of Du Pont's "K" cellophane (with polyvinylidene chloride copolymer coating) has been introduced by the supplier's Film Dept. The new film, which yields 11,600 sq. in. per pound, is designated "K" cellophane 116-202, the first three digits signifying its yield. The new cellophane is reported to retain most of the advantages of Du Pont's lower-yield "K" cellophane 103-203 (formerly "K" 600), which remains available. In addition, it is said to seal at a lower temperature than other heavy-gauge, polymer-coated films, providing efficient operation on both bag-making and make-and-fill packaging equipment. In thickness is 0.0002 in. thinner than "K" 103-203. Its strength is said to be sufficient to meet most packaging requirements for candy, crackers, biscuits and similar products. In terms of packages, the new yield enables a packager to make nine additional average-sized bags per pound of cellophane—an increase of 13% over the yield of "K" 103-203—the company notes. Further details are available from *E. I. du Pont de Nemours & Co., Wilmington, Del.*

Two-piece plastic dispenser cap

From Product Design & Engineering comes the Tip-Lock closure, a two-piece molded-polyethylene dispensing cap which is specifically designed for use with such viscous materials as glues, liquid detergents and hand creams packaged in squeeze-to-use plastic containers. The threaded closure has a captive overcap which slides up to permit squeeze dispensing of the product through four orifices in the nozzle of the unit. When the overcap is depressed, it seals off the orifices to prevent product flow. According to the supplier, the closure will not clog even when fast-drying glue is the product involved. The new cap requires neither pre-assembly or special capping equipment. A valve-seat sealing ring is reported to prevent product leakage. Available in an unlimited choice of one- or two-color combinations and in four standard diameters (18, 20, 22 and 24 mm), the closures are designed to upgrade merchandising appeal as well as container function. Price data and other additional information are available from *Product Design & Engineering, Inc., 750 S. Florida Ave., Minneapolis 26.*



Thousand-per-minute can imprinter

A new can imprinter which is reported to give clear, unblurred markings at the rate of 1,000 cans per minute has been developed by Industrial Marketing Equipment. Designed as an attachment to the production line, the marker has an automatic inertia device which is said to keep the star wheels in proper position and prevent them from overrunning. The unit can be easily adjusted for different can heights and diameters and its printing drum can be quickly

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Equipment & Materials [Continued]

adjusted for spot printing, the supplier notes. It has a flexographic inking system which uses a "floating" printing head for following the contours of the can top. The imprinter can be adapted for marking the bottom of cans and can be used for beer cans, aerosol cans, ice-cream cartons, cottage-cheese containers and other round or square cans. For details, contact *Industrial Marketing Equipment Co., Inc., 655 Berriman St., Brooklyn, N. Y.*

Plastic bag sealer and handle

Designed for use on plastic bags is a combination sealer and bag handle manufactured by Better Containers from polyethylene supplied by U. S. Industrial Chemicals Co.

The device, called Whirl-a-Seal, is simply a strip of 0.06-in. polyethylene with a horizontal center slit and interlocking hooked ends. Application is said to be a swift and simple manual operation. The top of the filled bag is pulled through the unit's slit; the device is then rolled downward and its hooked ends are engaged. In bag opening, the process is reversed. The sealer-handle can be used repeatedly without damage to itself or the film bag, says the supplier. As many as three bags can be sealed with one unit, suggesting tie-in applications. In addition to carrying convenience and sealing ease reported for it, the unusual new plastic device is claimed to strengthen the filled package because it distributes bag weight evenly. Available in varying gauges and in three colors, the sealer-handle is reported to be low in cost. For details, contact *Better Containers Mfg. Co., 2646 W. Madison St., Chicago 12.*



and sealing ease reported for it, the unusual new plastic device is claimed to strengthen the filled package because it distributes bag weight evenly. Available in varying gauges and in three colors, the sealer-handle is reported to be low in cost. For details, contact *Better Containers Mfg. Co., 2646 W. Madison St., Chicago 12.*

High-speed rotary liquid filler

Packer Machinery has introduced an automatic high-speed rotary liquid filler which it claims has several features never before offered on this type of unit. A continuous all-around conveyor is said to allow for great versatility in conveyor design to fit individual space and feed requirements. The container never leaves the conveyor. A positive cam action eliminates the need for weights and single star-wheel means reduced maintenance and cost of change-over parts, the supplier notes. It is available in vacuum, vacuum-gravity, gravity and pressure-feeding types and will fill glass, plastic or metal containers in amounts from ounces to gallons. The filler comes in 12-, 18-, 24-, 30- or 36-spout models. All liquid contact parts are stainless steel. The new unit is claimed to insure accurate and uniform filling. *Packer Machinery Corp., 109-14th St., Brooklyn 15.*

Films of polycarbonate resin

According to General Electric's Chemical Materials Dept., films made of its Lexan polycarbonate resin show promise of becoming an important factor in the packaging field. The films are said to offer an unusual combination of clarity, dimensional stability, toughness, flexibility, heat resistance and electrical characteristics. While these may vary somewhat, they are essentially the same for both extruded and solvent cast films, the supplier notes. The films reportedly can be thermoformed, heat sealed, printed and cemented without special treatment or preparation. The inherent toughness of the films should make them of considerable value in the packaging of hardware and other heavy, sharp items, the company reports. Skin packaging is

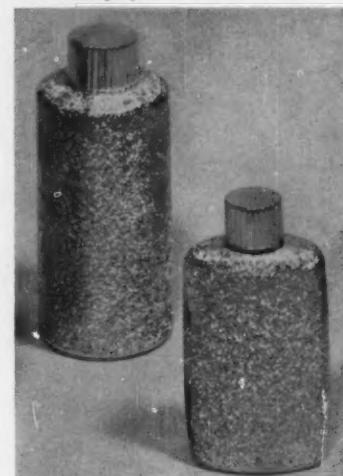
also possible, according to the supplier. Preliminary tests have shown the films to be non-toxic for food use, and an application is pending with the F&DA. In addition to their non-toxicity, the films are also said to be fungus-resistant. Further information is available from *Chemical Materials Dept., General Electric Co., Pittsfield, Mass.*

Cost-cutting enclosed glue system

Marathon has developed an enclosed glue system for packaging machines which is claimed to cut maintenance costs to a minimum, to save between 15 and 30% on glue costs and to provide a more efficient and versatile glue application. Designated Maraseal, the unit is a completely closed system which operates on combined electrical-pneumatic power. A stainless-steel pump, said to be designed specifically for pumping water-soluble adhesives from its own stainless supply tank through sealed supply lines to points of use, is employed in the system. The supplier notes that this is especially desirable where strict sanitation is required—as in food-packaging operations. Reportedly, the system can be adapted to virtually any packaging machine currently using either gravity or open type glue pots. Daily or end-of-production-run draining and cleaning are said to be unnecessary. Controlled agitation of the mixture can be maintained where the adhesive has separation tendencies. The system can also use adhesives with high viscosity levels, the company notes. Glue distribution patterns can be straightline, continuous or intermittent and regulated in width. *Marathon, Div. American Can Co., Menasha, Wis.*

Metalizing process for polyolefins

Poly-Kote is patenting a process for vacuum-metalizing polyethylene squeeze bottles, rigid polypropylene containers and other polyolefin forms. While the metalized coating is



reported to add new glamour and sales appeal to plastic containers, it also is claimed to offer greatly reduced permeability. The process is available, under a license arrangement, to commercial metalizers and blow molders. According to the supplier, the metalized plastic-container surface needs no pre-treatment to accept printing. The coating is reported to have ex-

cellent adhesion and permanence (even under repeated flexing, as would be the case with squeeze bottles) and to be resistant to alcohol, temperature extremes and fading. Cost is claimed to be comparable with that of standard vacuum metalizing. Tests run by the supplier company are reported to indicate that vacuum-metalized polyethylene bottles possess impermeability far superior to that of conventional polyethylene containers. *Poly-Kote, Inc., 82 Chestnut St., North Attleboro, Mass.*

Polyethylene bags for ice cubes

Bemis is now fabricating a variety of polyethylene bag constructions for the ice-cube vending-machine industry. Designed to compete with standard single-wall wet-strength paper bags, the supplier reports several advantages for the new bags—including improved moisture resistance (to extend storage life), improved package compactness, substantial reduction in initial package cost and re-use for

[Continued on page 178]

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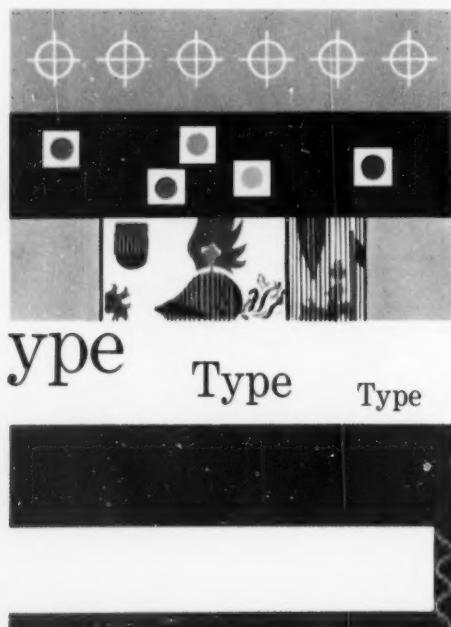
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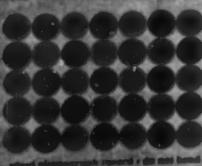


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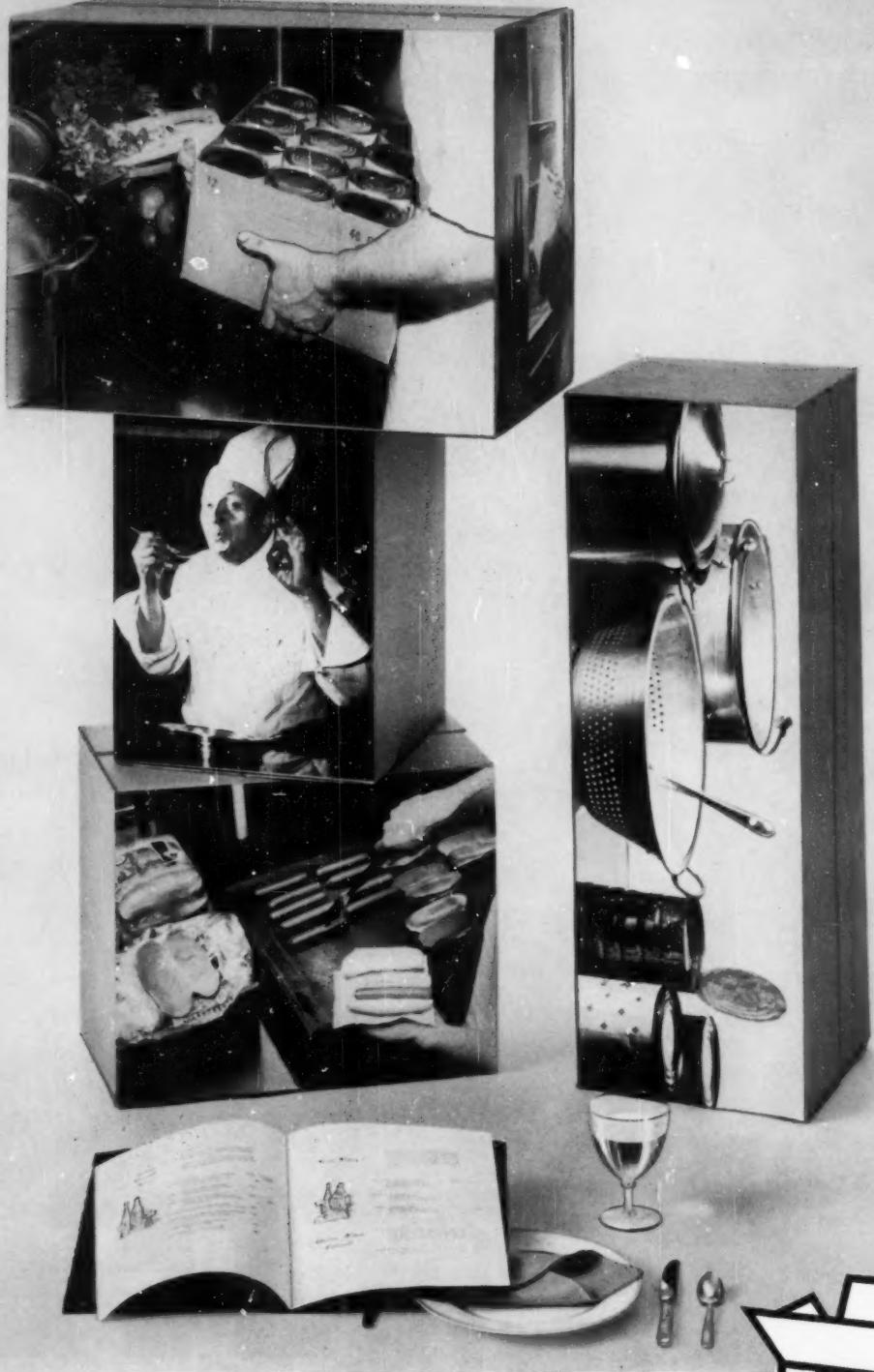


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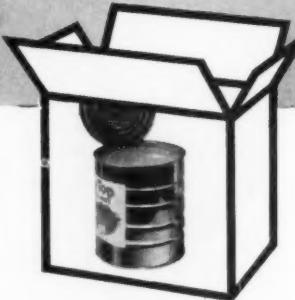


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Hot dogs and hamburgers at a drive-in...gourmet meals in an exclusive restaurant. Behind every bill of fare is a steady flow of food in corrugated boxes. And millions of them are made by Hinde & Dauch Division. Leading food processors depend on H&D for *economical shipping containers in volume*—plus expert technical services to keep costs low.



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Sounding BOARD

WE ASK THE READERS

Is the rate of new packaging-machinery development OK?



Scott M. Binkley
Packaging Engineer
Brown-Forman Distillers Corp.
Louisville

The rate of development of machinery to meet the needs of packaging is based upon two important factors—"need" and "economics." These two factors, of course, can vary in importance.

For example, in our business, we have historically used corks to close glass containers. Due to economics and consumer need for a more easily removable and replaceable closure, the industry has trended toward the use of a plastic screw cap, which can be precisely molded with uniform quality.

From the moment we introduce such a standardized closure, we can consider a machine to apply this closure. Developing such a machine is expensive in money and time. Costly refinements for this "specialized-use" machine are made practical by the number of prospective users and the ability of each to pay his share of the development. Greater numbers of qualifying prospective users naturally will shorten the development time required by the machinery manufacturer.

We can, therefore, always expect a varying period of time between beginning of a "need" and sufficient growth in demand to justify development. This lag can be disturbing to the person who has this need, but who is not yet in a large enough economic area to interest machine developers.

Similarly, there are machines in use today which were developed for a once specific need with no recent improvements. New developmental activity is suddenly prodded as new, more specialized machines of the same type are introduced by new developers.

Although it is almost as important for a developer to meet new needs with improvements to an existing machine as it is to design an entirely new machine for the need, there are times when an entirely new design is required—a design concept using new construction materials and more adequately serving rapidly expanding new needs in modern packaging.

There are areas where development of a machine to do a specific job has been too slow. But I also feel that when a well-defined need is evaluated within its area of economic qualification, we will find that criti-

cism that may be directed at the rate of development of package machinery is, in general, unwarranted.

Robert W. Francke, Vice President, Ar-Ex Products Co., Chicago: The question is whether the rate has been too fast in some areas, adequate in others and too slow in still other areas.

Recently, emphasis on packaging machinery has been almost exclusively on high-speed, fully automatic equipment. However, these outstanding developments have been practically horizontal. There has been, in my opinion, no comparable vertical development in equipment able to perform packaging functions ranging from hand operations to semi-automatic equipment.

Almost without exception, the low- to middle-range semi-automatic equipment designed for the cosmetic industry, of which we are a part, is relatively unchanged in design and performance from that available five, 10 or 15 years ago. A great gap exists between the rate of development of high-speed, fully automatic equipment and that of semi-automatic equipment designed to package a variety of items.

At our associated company, Jay Bee Laboratories, Inc., we manufacture and fill almost 200 items for private-label accounts in runs from one to 500 gross. We are constantly faced with machine down time to effect change-overs, as well as the high cost of inventorying a large number of change parts. Here, particularly, little progress has been made in adjustable machinery capable of handling a variety of packages without the need for change parts or with the use of a minimum of change parts.

Since there are relatively few manufacturers offering semi-automatic equipment, the rate of development in the field of packaging machinery could be greatly accelerated. For the manufacturer alert enough to realize this and devote a greater portion of his available research and development funds to this end, there exists a golden opportunity for machinery suppliers to capitalize on a relatively untapped market.

Iris Smith, District Purchasing Agent, Chipman Chemical Co., Inc., Bound Brook, N. J.: Too fast. The equipment and machinery in packaging are well ahead of our ability to keep up. So many companies, especially in the insecticide field, have come out with new products and the companies have grown so fast that the entire layout of [Continued on page 232]

The case of the chewy cheese case



MISS WATSON: *Fearless, I know this cheese is delicious!
But who would bite the case?*

FEARLESS FULLER: Must be someone with excess of zeal, Miss Watson. You'll have to admit the whiteness and freshness of this cheese case makes for an appetizing package.

MISS WATSON: *Fearless, weren't cheese cases always so tasty looking?*

FEARLESS FULLER: Not always. Box makers often have used a dark glued lap adhesive because the white adhesives were pretty expensive. Every so often the application machinery would squeeze out the dark adhesive and discolor the case.

MISS WATSON: *Oh, but this box looks perfect!*

FEARLESS FULLER: *It should be!* It's sealed with Fuller #1594, a new white synthetic resin glue. It costs less than other white glues—and just a slice more than the brown glues. And it's as invisible as you are after 5 o'clock.

MISS WATSON: *Oh, I bet your customer was happy!*

FEARLESS FULLER: Miss Watson, the box maker was happy and the Cheese King was overjoyed! More people will "say" cheese again.

MISS WATSON: *Oh Fearless, you're so . . . so . . . masterful!*

FEARLESS FULLER: We Fuller Men are masters of our customer's adhesives problems, Miss Watson!

Got an adhesive problem? Call your nearby H. B. Fuller plant—and ask for "Fearless" Fuller.

H. B. Fuller Co.



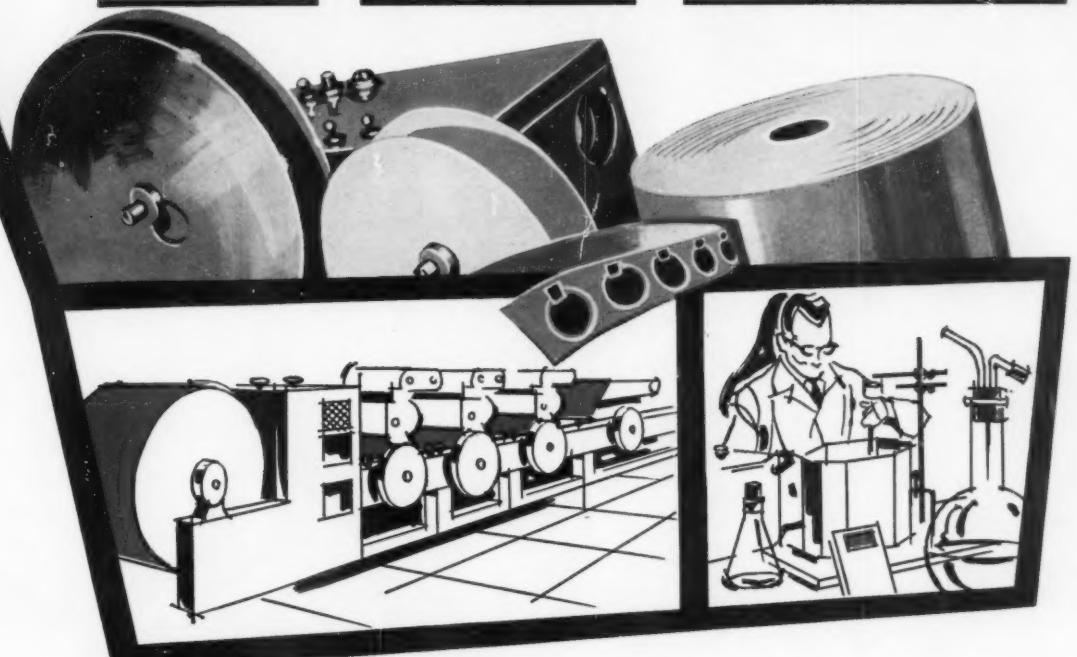
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TR 5-6366 • Memphis 7, Tenn., JA 6-4212 • Linden, N. J., WA 5-2272 • Also Toronto,
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250 per minute...on foil!

Fels had to have fast grab to withstand drag on bottom closures at the filling head... fast set to bond top closures in 30 seconds... extra tack to hold springy "Van Buren ears." A POLYBOND adhesive does it.

Heavy wax or foil...

with the same adhesive!

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Next closure problem, please

- Want to see a true engineering approach to your closure problem? Call Polymer. We don't stop with a "satisfactory" adhesive that will run today. We analyze the problem to find *all* the requirements... then we look for an adhesion system that takes care of stock variables, higher machine speeds and demands for more durable bonds... to keep

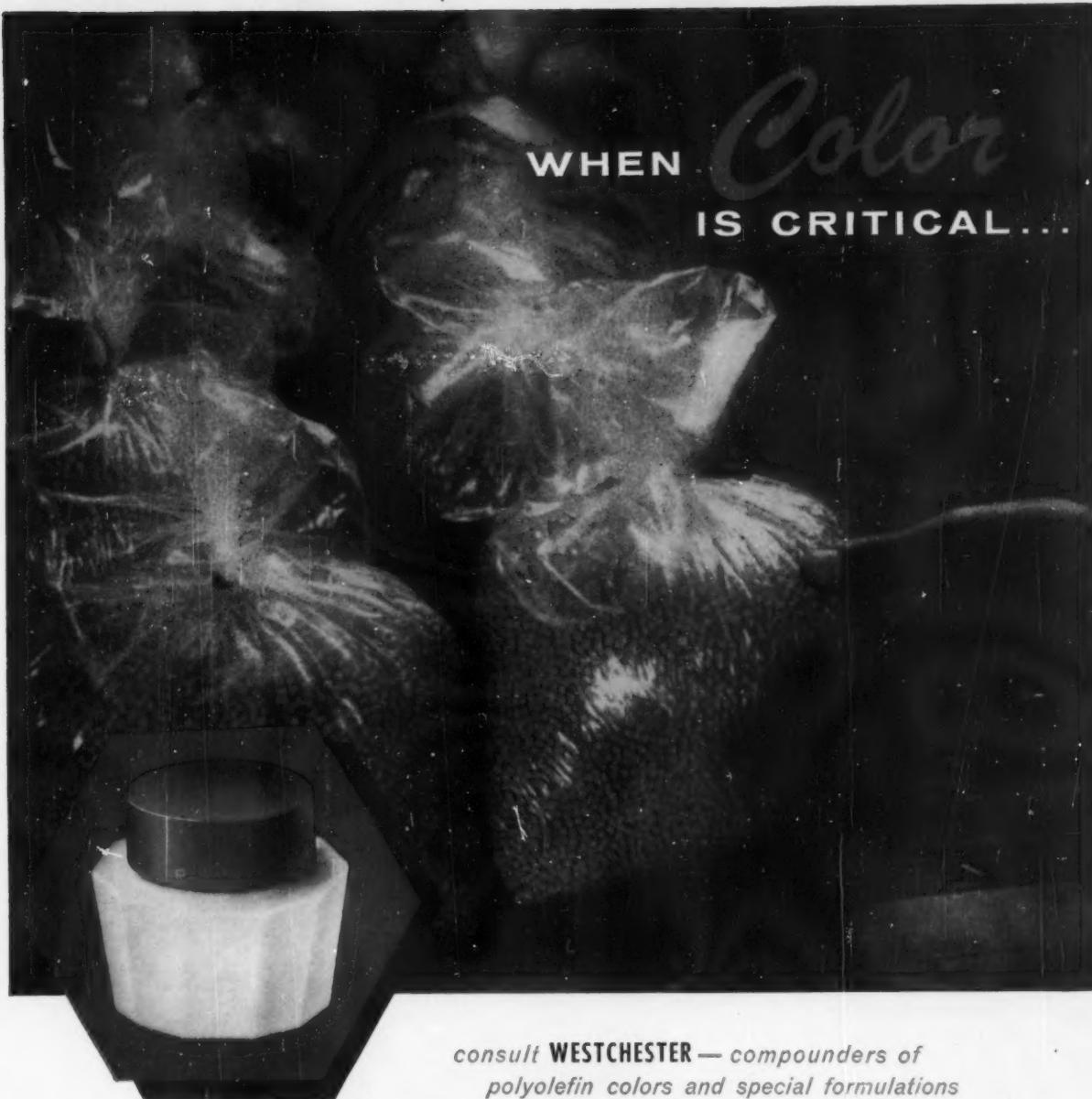
you out of trouble tomorrow. We call it "Adhesion Engineering."

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Unique shape possibilities. Only Tulox gives you practically unlimited choice of attractive container shapes and sizes in the basic sections shown here.

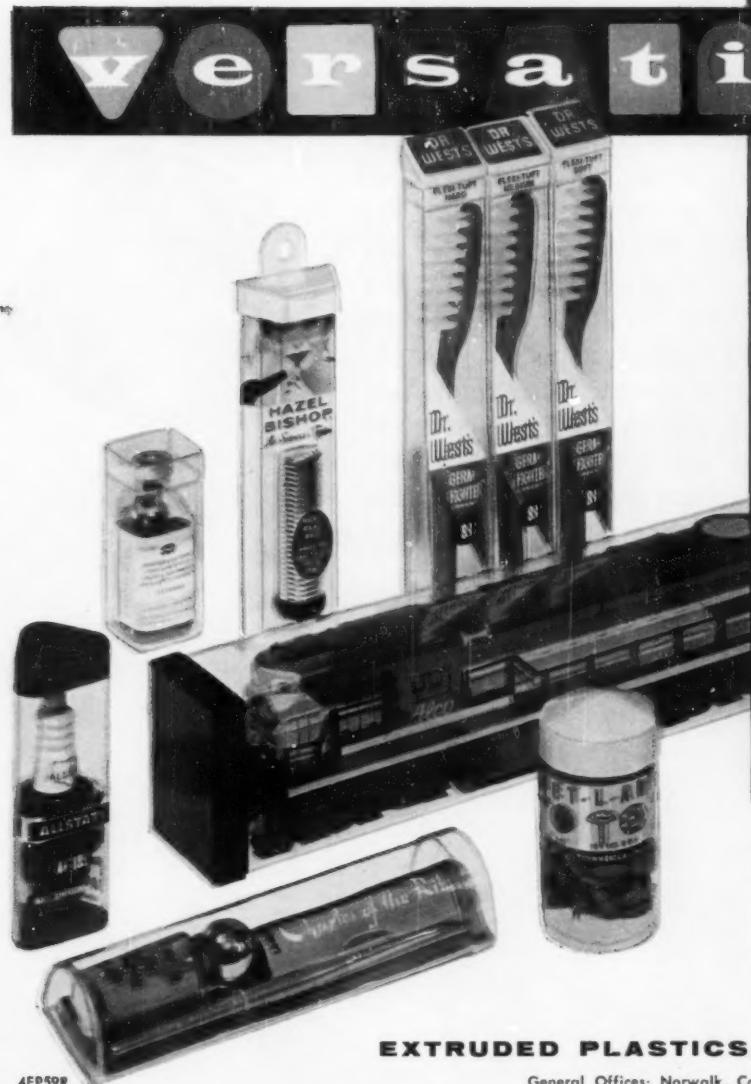
Unique color and styling possibilities. Tulox can be sparkling crystal clear or brilliant in colors of the rainbow . . . plain or decorated in exciting new ways.

Unique ability to fit your product needs . . . not only in size and shape but also in material and packaging "mechanics."

Unique marketing and merchandising abilities. Tulox can indeed help you all the way, from reduction of production costs to giving your customers a more appealing product.

Unique low cost. Tulox exclusive processes result in remarkable economies on volume runs . . . often permit packaging cost reduction 'way below that of less attractive alternatives.

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your
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unique
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NEW TULOX POLYETHYLENE CONTAINERS
for special applications in the drug, food and allied industries. Lightweight—low cost—unbreakable—treated for labeling or decorated. Ask us about the possibilities of this **NEW TULOX** packaging.

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...“private eyes” at work
for you in the packaging field

Top of the toothpaste, cap on the cognac, lid for the loganberry jam...the closure is “Pat” to the container’s “Mike”...together, **packaging**. Bottles, jars, aerosol bombs, pigmy or giant...all **packaging**. Protection, attraction, convenience, excitement...still **packaging**. Bigger than many single industries, **packaging** wraps up \$20 billion-a-year into a market of common problems, and the profit concern of many people. **One magazine** is their eyes and ears...their friend, counsellor, critic. **One magazine**, conspicuously, (via a unique Reader Development Program) has a task force of 88 university educators constantly calling on your finest prospects, discussing their reading, their programs, their needs. **One magazine**, accepting its leadership as a continuing responsibility, has created an advertising medium of unique character and force...

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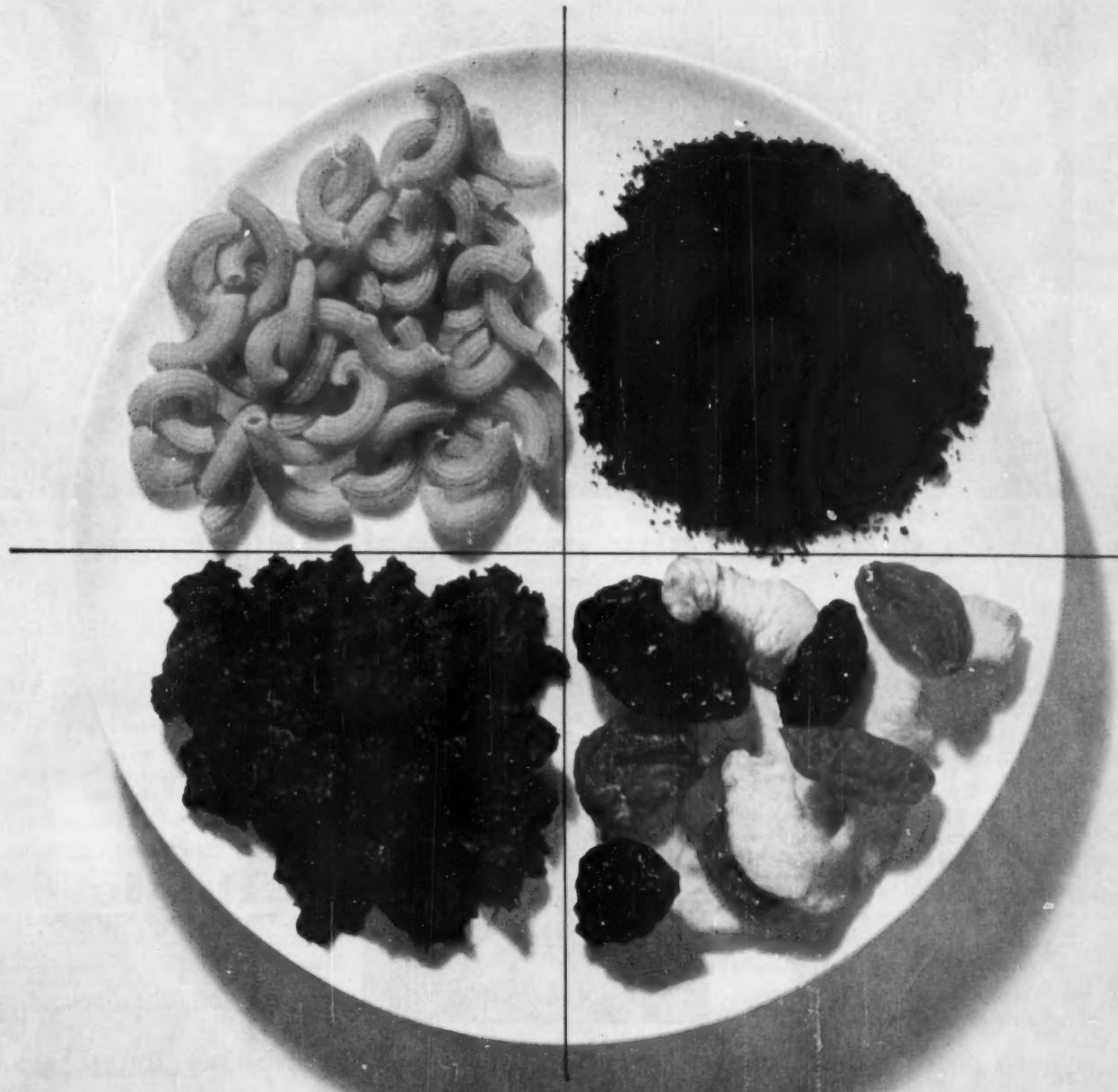
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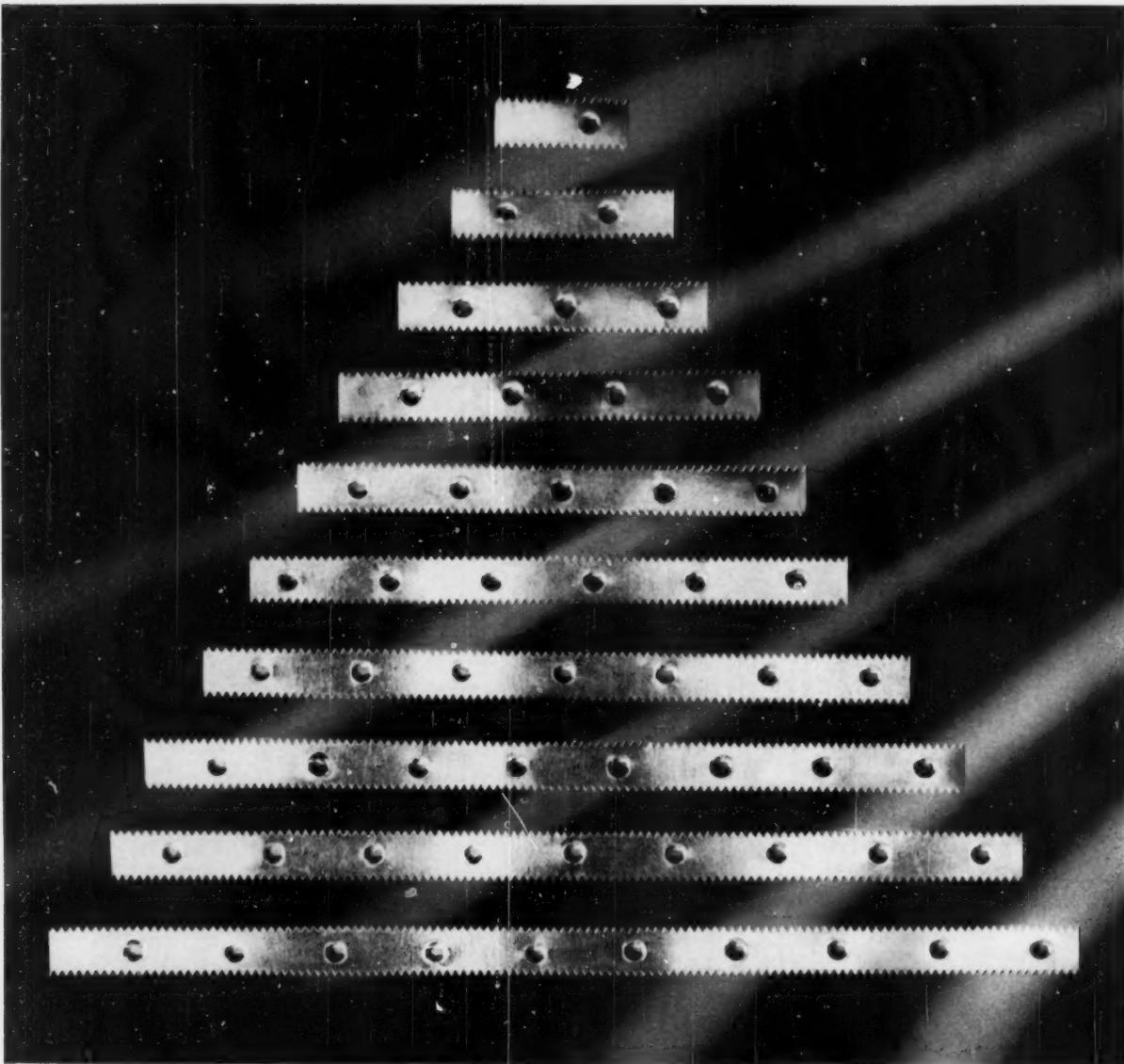
Whatever Product

you intend to pack, the Hamac-»Transwrap«® offers a rational and economical method in most cases. This automatic unit produces, fills and seals up to sixty pillow bags per minute, hour after hour throughout the day.

Whatever film you want to use, whether Poly, MSAT or any other flexible heat-sealing material, the Hamac-Transwrap will cope. More than a thousand units operating in conjunction with a great variety of – interchangeable – feed units, prove the high degree of versatility and adaptability of the Hamac-Transwrap. All our experience is at your service.

HAMAC HANSELLA
Hamac-Hansella Maschinen GmbH, Düsseldorf, Western Germany





Cutter cartons make sales pyramid

Want to build your sales up to a new peak? A St. Regis® metal-edge cutter carton can sharpen the sales appeal of your package. Then watch the orders grow!

St. Regis cutter cartons are engineered to make an attractive, handy self-dispenser for your product. When your package is used over and over again, your brand name registers time after time. You get the "edge" on competition. And *only* the Folding Carton Division of St. Regis has the versatility to supply you with metal edges in such a wide variety of lengths—ranging all the way from $\frac{1}{2}$ " to 36".



Metal-edge cutter cartons and folding boxes have been specialties of our package design engineers for years, helping to make St. Regis a leader in the folding carton field. Their imagination and experience are at your disposal.

To put real teeth into your sales, find the St. Regis plant below that's nearest you, and drop us a line today.

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SHOPPERS PICK PLASTIC

PLAX plastic packages propel all sorts of products into the shopping cart. Plastic catches the eye and ignites the buying impulse. Its beauty is striking—its sales appeal high. Even tiny tots know plastic is lighter to lift and safer to use. PLAX — creator of the plastic squeeze bottle — now offers the largest capacity for *quality* containers in the industry. If your product pours, sprays, or is delivered in drops, PLAX can help you.

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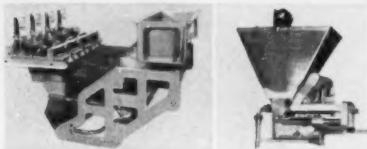
PLAX GIVES A PACKAGE A PLUS

Hayssen's Five Automatic Feeds Fit Any Product

Whatever your product — liquid, powder, granules, solids — Hayssen COMPAK form, fill and seal machines have the automatic feeding system to give you greater accuracy, higher production speeds and increased efficiency. For the finest in flexible bag packaging, match your product to one of these Hayssen COMPAK automatic feeding systems!

NET WEIGHT SCALE

Weighs with extreme accuracy. Scales control bag making unit to eliminate overfeeding and empty bag making. Convenient controls permit weight changes in seconds.

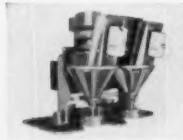


LIQUID PUMPS

Models available to handle all liquids regardless of viscosity! Hayssen pumps feed either pure liquids or products in liquid suspension. Non-drip valves assure clean seals every time!

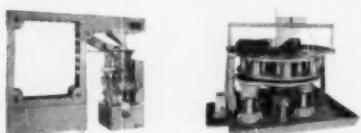
AUGER FEEDS

Augers are individually controlled and adjusted. Sealed gear housing is permanently lubricated. Product agitation is separate operation. Ideal where close tolerances are required.



VOLUMETRIC FEED

Turret travels cup several feet to settle and distribute product. Telescoping cups allow in-operation adjustments. Choose from four types to meet your specific requirements.



AUTOMATIC ELEVATORS

Ideal for hardware, toys, premiums and other hand fed products — also suitable for combination or multiple products which must be fed to one package. Conveyors are custom built, and can operate in conjunction with other feeding systems.

For full details on automatic feeding systems — and the complete line of Hayssen flexible packaging machines — write or call today!



Butcher, Baker, Candlestick Maker -- Hayssen packaging machines serve them all

Hayssen means packaging — in foil, film, plastic, paper, metal or glass. Hayssen machines can sort, stack, weigh, label and bundle your product to meet the most demanding production requirements. And, each and every Hayssen-made package has that clean, fresh look for maximum sales appeal. Whether your packaging problem requires a custom installation or a standard Hayssen machine, we invite your inquiry. Your nearby Hayssen office is staffed with prompt, courteous people who have a wealth of experience in solving all types of packaging problems. Why not test their mettle on your next packaging problem? They're listed in the Yellow Pages under Packaging Machinery. Call them today!

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how successful marketers

to add more sales appeal!



Anaconda Aluminum—plain or laminated foil or rigid foil containers—you can better protect and brighten your product—and your sales outlook. Our "Aluminum Foil Design" booklet includes helpful information on label design. For your free copy ask your Anaconda Aluminum representative or write Dept. MP-7, P. O. Box 1654, Louisville 1, Ky.



WORLD REPORT

Digest of foreign packaging developments*

ENGLAND

Dairy cream in polystyrene bottles

An English dairy firm, Young's, is marketing Devonshire frozen cream in a wide-neck, bottle-shaped polystyrene container. The tapered, cylindrical bottle of 4-oz. capacity is injection molded in two parts—base and body—of high-impact, opaque, cream-colored polystyrene and joined by solvent. During production, a rubber compound is cured into an indentation in the rim. When the bottle is sealed, the 0.050-mm. foil cap is pressed into the ring and the edge of the cap is spun under the rim to form an efficient closure. New capping and filling equipment has been installed to handle the new bottles, which are non-returnable.

Vinylidene fluoride film potentials

Referring to new polymers containing fluorine in a recent talk on "Technical Advances in Packaging," Dr. V.C.W. Harrison, director of the Printing & Allied Trades Assn., particularly mentioned vinylidene fluoride, containing more than 59% fluorine, which, he said, can easily be extruded. The film also can be formed from dispersions by spray coating or casting. Its remarkable properties include, he added, strength and toughness, chemical resistance, weatherability, thermal stability and low cold flow. Dr. Harrison reported that a piece of beef was wrapped in the film, heat sealed and irradiated to sterilize it. The meat was still in edible condition nine months later after exposure at ordinary room temperature. Dr. Harrison mentioned another new film, rubber like in texture, derived from polyurethane plastics. It is reported to be five times stronger than other films and to be unaffected by air, gases, petroleum and low temperatures, to be abrasion resistant and tear resistant, and particularly suitable for the packaging of processed food products.

Electronic sorting by color

A new addition to a line of electronic machines made by an English firm is a color-sensitive unit for sorting peas, coffee beans, rice, cereals, etc. prior to packaging. Sorting is carried out so that damaged seeds are discarded in such a manner that dark and light good ones remain, while stained and unwanted ones are thrown out. For coffee, the machine will also sort simultaneously the different unwanted shades. Photo-electric cells inspect the article simultaneously from four sides and all variations in reflected light due to dark stains, flaws and items of darker color cause imperfect specimens to be rejected.

SWEDEN

Big rise in packaging activities

Rapid expansion of Swedish packaging is revealed by the production value of Swedish packaging industries. In 1960 it was estimated at close to 850 million kronor (\$170 million), in comparison with 320 million kronor (\$64 million) in 1950. If costs for the packing of goods at the respective manufacturing industries are included, the total for 1960 was some 1 billion kronor (\$200 million). These are the most recent figures from a study, "The Economy of

Consumer Packagings," by Swedish economists Yngve Hammenberg and Tore Garstam (see "World Report," MODERN PACKAGING, June, 1960, p. 77), based on statistical material for the years 1950-1960. The findings, amplified with a packaging dictionary, are now published in "Forpacknings Handboken" by Akerlund & Rausing. Consumer packaging constitutes about 50% of this production value. During the last decade, the largest increase in Sweden's consumer packaging was accounted for by paper and board, up 152% in value, whereas metal cans and glass containers showed a rise of only 98% and 63%, respectively. Plastics, introduced in Sweden as a packaging material during the decade, accounted for about \$12 million of the 1960 production value. Sweden sees a 50% increase in consumer packaging of frozen foods by 1965. Rapid growth of self-service stores—from 120 in 1950 to 5,700 today—is expected to result in more packaging for products still sold loose.

FRANCE

French Institute's first decade

A review of the 10 years' experience of the French Institute of Packaging in *Techniques d'Emballages* discusses the accomplishments of this organization since it was founded in 1951 and outlines its principal services to European and American packagers: market research, documentary file on packaging subjects, consultation, international contacts, organization of national congresses, sponsorship of Oscars de l'Emballage competition, analysis of production techniques with arrangements for factory visits, technical advice on packaging problems and many others offered to packagers around the world.

Exotic entrées in polyamide film

Grands Magasins du Printemps, French department store, is offering a choice of frozen cook-in-the-bag items packaged in polyamide film bags (Rilsan) inside colorful cartons. Polyamide film (a type of nylon) was selected by this user reportedly for its suitability to this application and because of its efficient barrier properties.

SWITZERLAND

Machine to wrap small butter portions

Individual portions of sugar, coffee, tea, cheese and other items have been packaged for a long time. Now a small Swiss machine made by Société SIG has been developed to package individual portions of butter in aluminum foil or laminated paper for hotels, restaurants, hospitals, canteens, dining cars, airlines and camping. The machine, which operates at a speed of nine to 100 units a minute, produces units of 10 to 20 gm., reportedly within $\frac{1}{2}$ -gm. accuracy.

ITALY

One-shot aerosol container

A new type of glass aerosol container with contents for just a single dose is being introduced by Montecatini, Milan. It is designed for an insecticide to use for traveling and camping—also has possibilities for sampling. The containers are not more than $1\frac{1}{2}$ -in. high (see p. 238).

* For additional information, write: World Report Editor, MODERN PACKAGING, 770 Lexington Ave., New York 21.

Good Show!

Striking Ekco-Alcoa aluminum packages have a high performance I.Q.

They carry products unscathed throughout the production, distribution, and customer-use stages of marketing. Food can be frozen, heated, and served in one attractive container. Hermetically sealed, Ekco-Alcoa containers keep moisture-sensitive products such as pharmaceuticals or ball bearings with complete safety. . . . These versatile performers nest compactly; take up little space in a plant or warehouse. Their precise uniformity makes them ideal for high-speed production lines, and they weigh next to nothing, assuring low shipping costs. They can be covered with a wide range of materials—foil, paperboard, heat-shrink film, you name it. The closure equipment, itself, is available from Ekco-Alcoa on either a sale or rental basis. . . . Encore: surprisingly low unit cost is made possible by modern mass production methods. Your nearby Ekco-Alcoa distributor will be happy to furnish details. Or write direct.

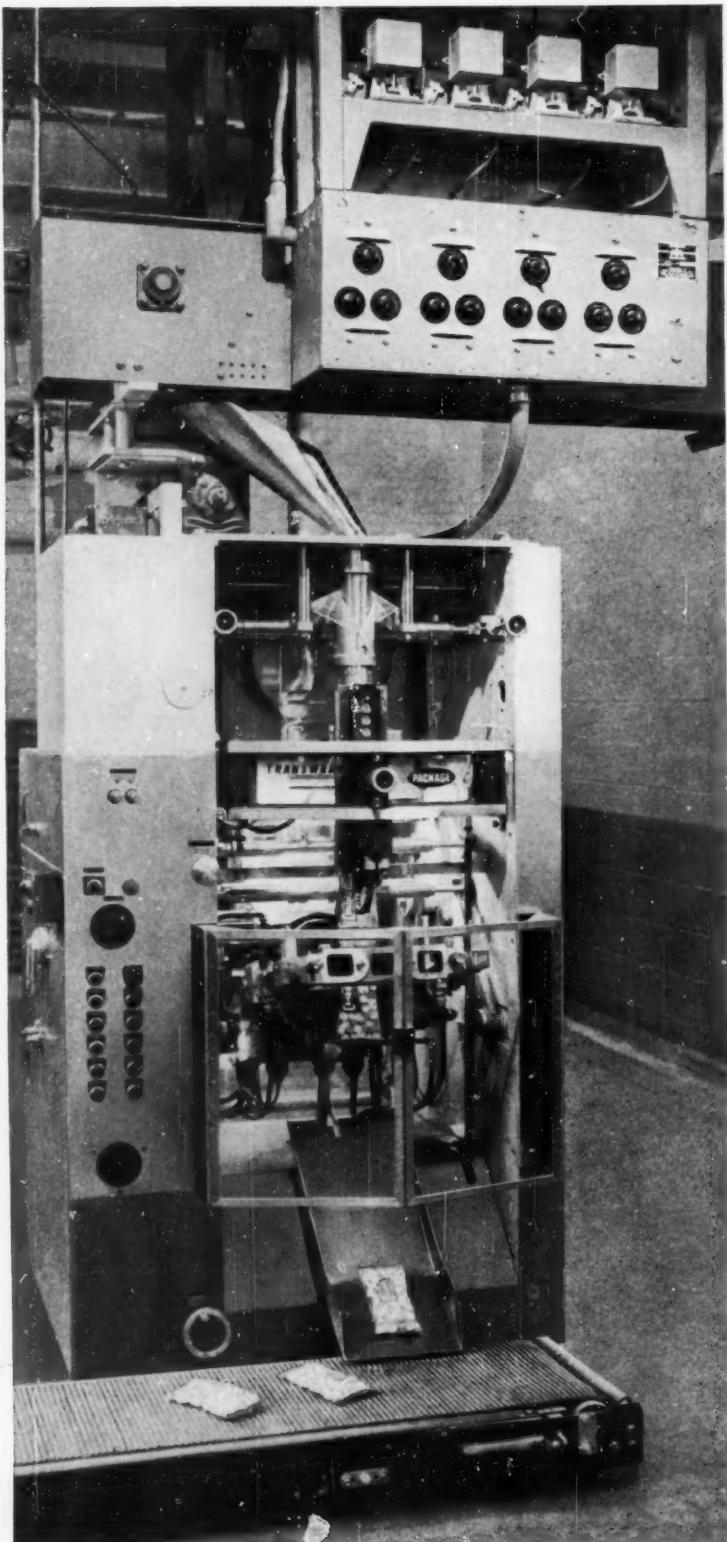
EKCO-ALCOA CONTAINERS INC.

GENERAL OFFICES: WHEELING, ILLINOIS



The Plus Container

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TRANSWRAP S-750 GIVES NECCO HIGH-SPEED AUTOMATIC PACKAGING

On their Canada Mint packaging operation, New England Confectionery Co. now automatically forms, fills and seals 9-oz. polyethylene bags on a Package Transwrap S-750. Sustained production rate for the 4 $\frac{5}{8}$ " x 8 $\frac{1}{2}$ " bags is 60 a minute.

NECCO gets high-speed operation and flexibility of bag sizes and materials with its Transwrap. The machine runs virtually unattended, and the net weight scale feed maintains extremely close accuracy. Their 6-oz. and 8-oz. mint packages are planned for this unit in the near future.

If you're interested in the benefits of high-speed automatic operation, call your Package representative. He will be glad to explain how the Transwrap S-750 can help you produce a smarter package, faster and at lower cost.

The Package Transwrap S-750 offers these cost-cutting features that mean speed, flexibility and efficiency to any packaging operation:

- Wide size range—bags 3" to 15" long, 2" to 8 $\frac{1}{2}$ " wide.
- Up to 75 bags a minute with a single tube; easy speed adjustment.
- Handles a wide variety of plastic and heat-sealable films.
- Rapid film and size change-overs.
- Smooth, straight pull on material, even at high speeds, by spring-counterbalanced, crank-operated drawbar.
- Improved paper feed operates faster, eliminates film distortion.
- Tight, positive impulse sealing of ends and longitudinal seam.

In addition to Canada Mints, NECCO plans to use the Transwrap to package other candy products in both polyethylene and cellophane bags.



PACKAGING IS PART OF YOUR PROFIT PICTURE

PACKAGE MACHINERY COMPANY, EAST LONGMEADOW, MASS.

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PACKAGE



See how **Scotch® Brand** tape



turns a package.....



into a fresh pack...this fast !

AS FAST AS YOU TURNED THIS PAGE — in just two seconds — a thin gold band of "SCOTCH" Brand Tape seals in freshness on another 10-pack of Corina Larks. The pressure-sensitive seal on this new package keeps cigars factory-fresh up to six times longer than conventional cigar packages.

"SCOTCH" Brand metallized gold polyester tape No. 850, applied automatically to 30 such Ever-Fresh packs a minute, covers the closure and hinges of the clear plastic container. The attractive gold tape upgrades package appearance and adds

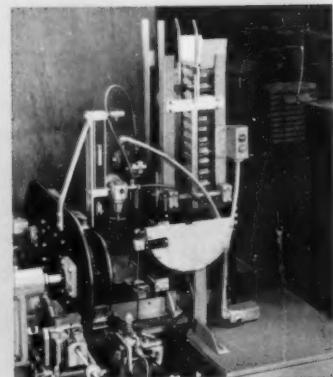
appeal while serving as a highly effective moisture-vapor barrier.

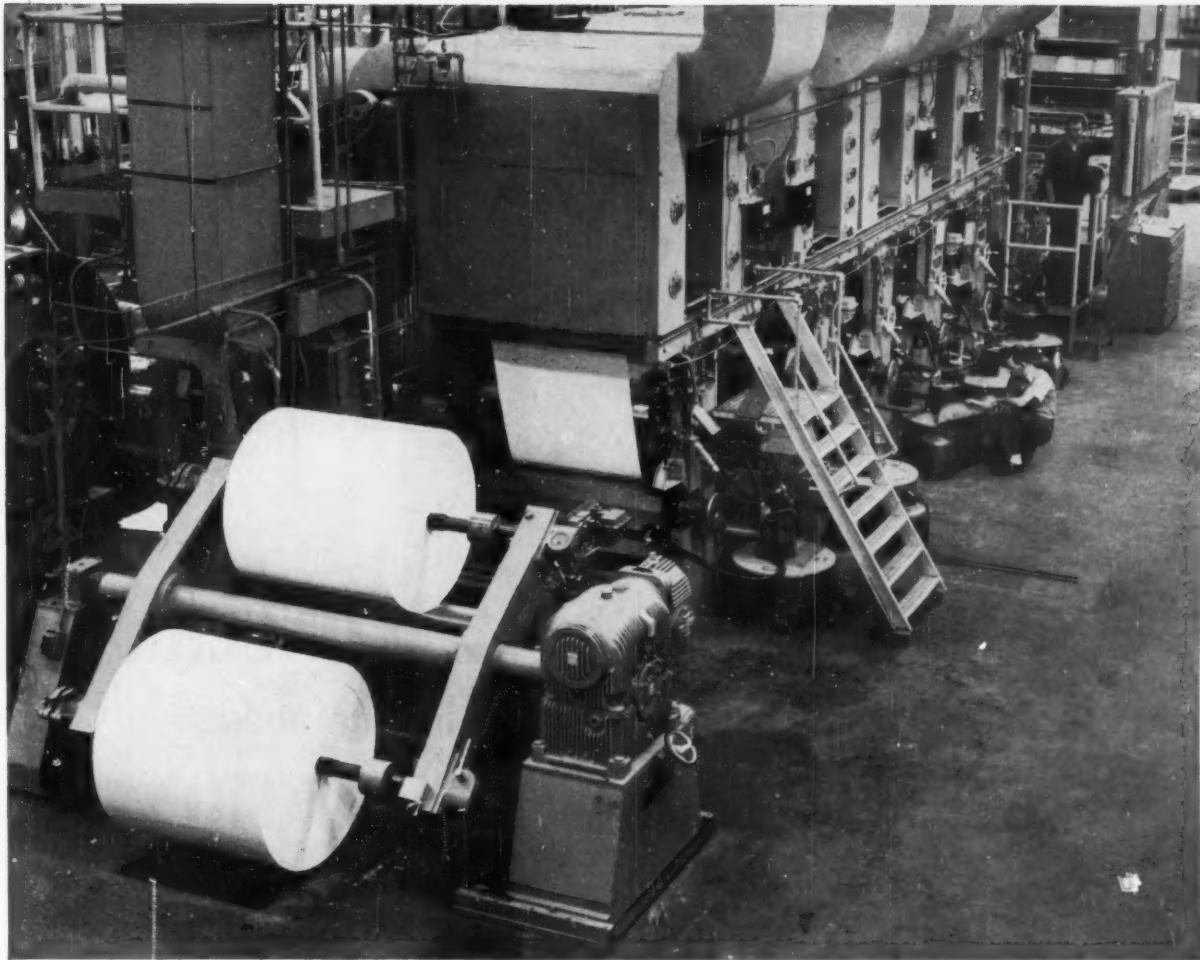
How might a decorative, moisture-resistant tape closure help you design greater protection . . . greater eye appeal into your packages? For information about methods and equipment, call your 3M Tape Representative, or write: 3M Co., 900 Bush Ave., St. Paul 6, Minn., Dept. IBG-91.

This unique applicator, designed and built for the Corina Division of General Cigar Company, automatically seals and applies an easy-opening plastic tab to 30 packs of cigars per minute.

Scotch Brand
tapes for packaging

Industrial Tape Division **3M** COMPANY





"Encore" Says Reynolds Tobacco to INTA-ROTO Rex

*Performance of First Sells Second Inta-Roto Press to
R. J. Reynolds Tobacco Company's Archer Aluminum Division*

Continuous operation; produces *millions* of cigarette wraps *daily*. Profitable short runs, too. Fast changeover; exceptional versatility, handles a large variety of packaging materials.

The Archer machine is equipped for in-line thermoplastic laminating and embossing before and after printing. It can print, laminate, emboss, and rewind or sheet. Pre-makeready, and quick, inexpensive changeover is permitted by interchange of complete printing and inking units (fully enclosed, completely splash proof).

Write today for more information about the Inta-Roto Rex, or other Inta-Roto machines.

GIVE US THE PROBLEM! Our engineering staff is now available for contract engineering. Our experience in the fields of printing, coating, laminating and slitting gives us the "inside track" on problems of the converter.

INTA-ROTO MACHINE CO., INC.

P. O. Box 454 Byrd Airport, Richmond 3, Va. Phone Republic 7-4181

Canadian Representative: G. W. Keates,
133 Flora Drive, Scarborough, Ontario



**TODAY'S DEMAND—
A "TIGHT PACKAGE",
TRULY REPRESENTATIVE
OF THE CONTENTS!**

GROWING NATIONAL CONCERN over packaging design and methods CALLS FOR POSITIVE ACTION

***Imperative for producers to check out present operations
in view of recent developments.***

It takes something less than a seer to predict that "slack" packaging, especially in foods, faces severe criticism and possibly serious difficulty in the near future. Recent interpretation

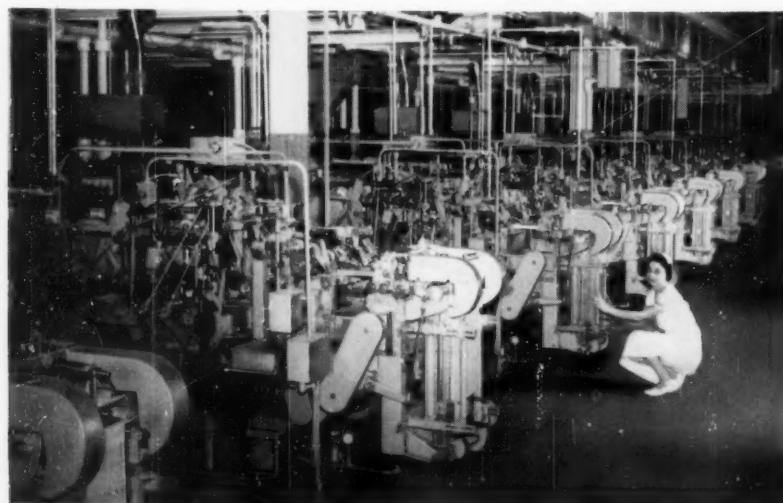
of what constitutes a satisfactory package from the standpoint of amount of product to size of container makes it clear that very little margin of difference is going to be ac-

ceptable. A "tight" package that is truly representative of the product contents is to be the order of the day . . . starting as of right now.

Any package that takes up more space than absolutely necessary is frowned upon by supermarket management. Shelf room in their stores is at a premium and grows more so every day.

In contradiction to these very important realities is the desire on the part of food merchandisers to present a package front that is attractive to the consumer — one that serves as its own salesman.

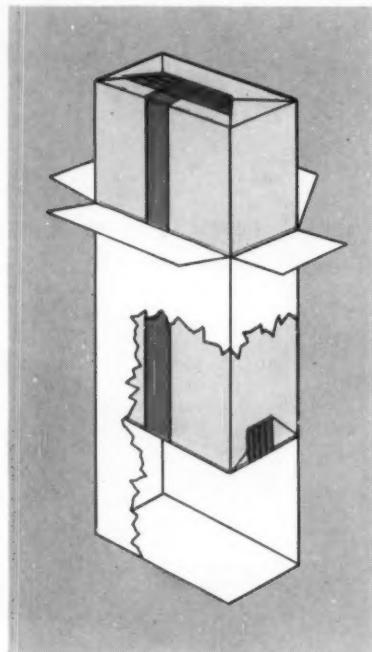
Fortunately, with many new protective films now available, packaging is more flexible than ever before. There is a wider choice of materials of varying price, in a day when savings in material costs are becoming a very big factor, especially on large volume items. Similarly, there is an ever-growing need for more efficient equipment that will operate at higher speeds to produce the type of con-



View of production room at Kellogg's plant in Memphis, Tennessee, with several small Double Package Maker lines in operation.

tainer that best satisfies the authorities, the producer, the store and the shopper.

All concerned are best served, under these circumstances, by machines such as Pneumatic builds — equipment whose place in the packaging world has been firmly established, but which seems to be actually "made to order" for the situation now facing the producer of retail goods.



Cut away drawing of Pneumatic's Fin Seal package which provides maximum protection with space for complete fill.

Key to this whole picture is the weighing operation. Automatic precision weighing became available for the first time when Pneumatic de-



Installation of Pneumatron weighers at plant of National Biscuit Company at Fairlawn, New Jersey.

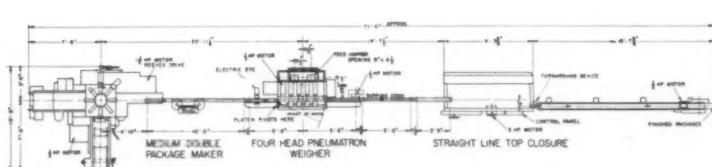
veloped Pneumatron. This instantaneous pressure method of arriving at net weight, permits endlessly repeated accuracy beyond the most stringent requirements. Extremely sensitive, yet very simple in principle, it is self-compensating for changes in product density or rate of flow.

A ready-made answer to the problem of slack fill — more acute now than ever before, particularly where a lined carton is involved — is offered through use of a Pneumatic Double Package Maker combination.

With this equipment, a great range of materials and methods may be employed in forming the inner bag, both

easily and economically. Any type of heat sealable film, supported or non-supported, may be used as well as materials requiring glue seal including resin, emulsion and hot melt adhesives. A tightly sealed package is made with maximum protection for product and space for *complete fill*. There is no need to waste space. This means there are sizeable savings in material costs. Such a package is above suspicion or criticism of any kind, and with today's multiple choice of materials offers many possibilities for improving the container's merchandising and selling characteristics.

Highly integrated control systems and safeties protect against waste of product or spoilage of containers, further contributing to the end result of "lower cost per container" performance. Pneumatic's constructive and complete packaging service includes examination of your particular product and production characteristics, your merchandising and selling objectives, your competitive situations and other factors bearing on the kind of package you need . . . as well as advice and counsel regarding official requirements and how they may best be met. Write for Pneumatic's NEW ERA PACKAGING folio today . . . it will be sent you free of charge.

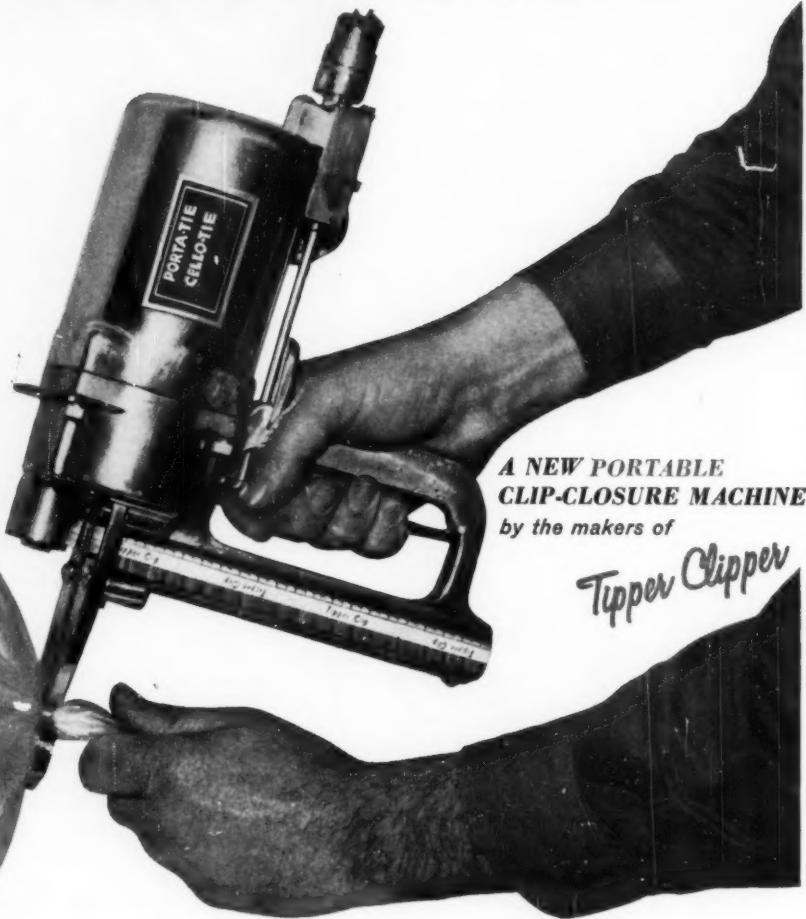
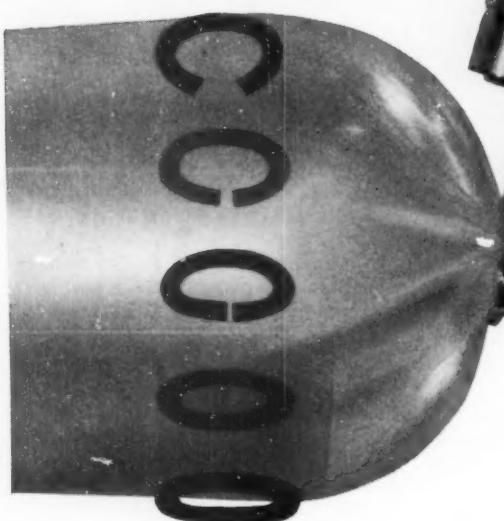


Floor plan of typical Pneumatic packaging line.

PNEUMATIC SCALE CORPORATION, LTD., 82 Newport Avenue, Quincy, Mass. New York; Chicago; Dallas; Rochester; Toronto (Delamere & Williams Co., Ltd.); Los Angeles; San Francisco; Seattle (Fred Todt Company); London (Rockwell Pneumatic Scale Ltd.); Paris (O.R.M.A.)

announcing **PORTA-TIE**

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**A NEW PORTABLE
CLIP-CLOSURE MACHINE**
by the makers of

Tipper Clipper

Ideal for all Types of Production Line Packaging

Now, a portable version of the famed Tipper Tie clip-closure machine extends all the advantages of the faster, more economical Tipper Tie system to a host of new clip-closure operations.

PORTA-TIE brings the benefits of quicker, cleaner compressed-air clipping to such bagging and wrapping operations as multi-wall bags and drum liners in the chemical, pharmaceutical and other fields; the protective bagging and wrapping of sporting goods, machines, appliances, hardware, toys, food, etc.

Tipper Tie installations have long been in wide use in the meat and poultry industry where

speed, economy, and an attractive, clean-looking aluminum clip are prime considerations.

Send for literature on new, economical, versatile PORTA-TIE.

A Clip-Closure for Every Packaging Operation

FOODS: meat, poultry, dairy products, produce, baked goods. **DRUGS:** proprietaries, sundries, cosmetics. **HARDWARE:** tools, accessories, machine parts. **TOYS:** novelties: stuffed animals, dolls, assembly operations. **MULTI-WALL BAGS AND DRUM LINERS:** chemicals, fertilizers, building materials.



PRODUCTS OF NEW JERSEY, INC.

407 CHESTNUT STREET, UNION, NEW JERSEY, MURDOCK 7-2345

U.S.I. POLYETHYLENE NEWS

A series of advertisements for plastics and packaging executives by the makers of PETROTHENE® polyethylene resins

SEPTEMBER, 1961

U. S. Industrial Chemicals Co., Division of National Distillers and Chemical Corporation

39 Park Ave., N. Y. 16, N. Y.

Packaging Notes

Reusable closure for polyethylene bags is airtight — protects against humidity, leakage, odors, mildew, hardening, de-



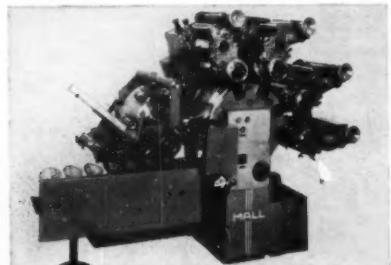
composition. Easily attached, it comes in three sizes and a range of colors; is especially suitable for rack display and tie-in merchandising. This clip, originated in France, has been widely used in Europe for packaging foods, chemicals, drugs, precision instruments, notions, sweaters. A Yonkers, N. Y., company is the American manufacturer and distributor.

Adjustable-flow bottle for hydrofluoric acid is molded entirely of polyethylene. Unique closure (design patented) permits user to actually "dial" the rate of flow—from a single drop to a steady stream. There's no diaphragm to puncture: the one-pound container has a slip-on dust cover which protects against contamination and leakage.



New primer, said to be an excellent adhesion promoter, does away with the need to age film surfaces prior to extrusion coating with polyethylene. Can be used on cellophane, polyester, aluminum, many other films and foils. Application is by wash coat. Coverage: 10 lbs. per 3,000 sq. ft. wet.

Offset printing machine decorates round and tapered polyethylene containers and bottles in four colors at a production speed of 80 pieces per minute, maximum. It handles bottles up to 13 inches high, four-inch diameter full circumference and six-inch diameter $\frac{2}{3}$ of circumference.



First Commercial Products Of U. S. I.'s Powdered Polyethylene Introduced

Outsize Items Molded from MICROTENE® by New Technology

One ton-capacity meat tanks, nine-foot long boats and 13-gallon containers are among the first products made of powdered polyethylene to be marketed in the U.S. All three are being produced by powder molding. This is a new polyethylene technology used in Europe, but relatively unknown in America until U.S.I.'s MICROTENE became available nearly two years ago.

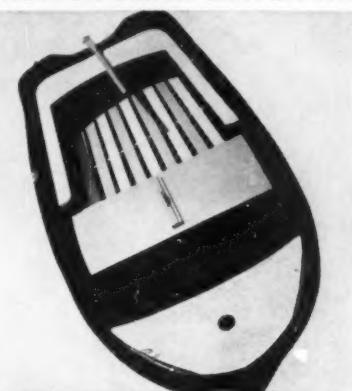
Process is fast, easy, economical

Larger than ordinary moldings can be made from powdered polyethylene. The process is fast and requires simple, relatively inexpensive molds. Ease and economy of production give many items made by this method a price advantage over those molded by conventional procedures.

The new boat, molded from black MICROTENE by an Indiana company, is typical. It has the first full-sized hull made of conventional polyethylene, without the use of wood or metal inserts for stiffening. It will retail at a price lower than comparable boats. It won't rust or dent. Can be used with outboard motors up to 5 hp.

The same company utilizes MICROTENE to produce a meat tank for use in packing and processing plants. It is thick-walled, easily cleaned and resistant to juices and chemicals; holds one ton of liquid or bulk product.

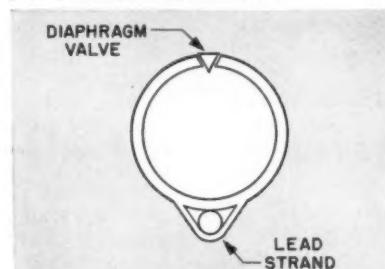
The 13-gallon MICROTENE "bottle", produced in Brooklyn, N. Y., is lighter and takes less storage space than the glass carboys it's designed to replace. It is also unbreakable and corrosion resistant — characteristics which virtually assure its success in the chemical industry. The manufacturer has received ICC certification for the 13-gallon container. The company can reportedly produce up to 800 of the units in a normal 40-hour production week.



Tough, lightweight boat hull is made from U.S.I.'s MICROTENE finely-divided polyethylene. It will retail at a price lower than comparable boats of reinforced plastics.

Ice Melting System Uses Polyethylene Tubing

Weighted polyethylene tubing is an integral part of an automatic aerating and ice melting system currently being marketed. The equipment, inexpensive to install and operate, is designed to provide year-round open water for wildlife sanctuaries . . . prevent winter fish-kill . . . and eliminate ice damage to docks, piers, boats, locks, dams, etc.



As shown in the schematic drawing, the tubing has a built-in strand of lead along the bottom and diaphragm valves at given intervals along the top.

During service, needle-point amounts of oil-free air are forced into the water through the valves in the submerged hose. The air gently circulates the earth-warmed bottom water — which aids in ice melting. The air also furnishes oxygen for the fish, and for burning up organic debris.



Extra-large meat tank made of MICROTENE—designed for transporting, storing or process-handling meats—is one of the first results of the new polyethylene technology called powder molding.



YOUR BEST SELLERS LOOK BETTER, SELL BETTER IN POLYETHYLENE-COATED CONTAINERS

Pies of all kinds. Meats. Poultry. Seafood. Complete meals. "Foreign" specialties. The variety grows and so do sales.

But the things that make these food items good — buttery crusts; fresh fruit fillings; special sauces and gravies — also make it difficult to keep them looking good in the package. Customers always reach for the product with the fresh-packed, clean look . . . refuse a stained package, no matter how good the contents.

That's why you need containers made of polyethylene-coated board for your frozen food. Polyethylene coatings provide:

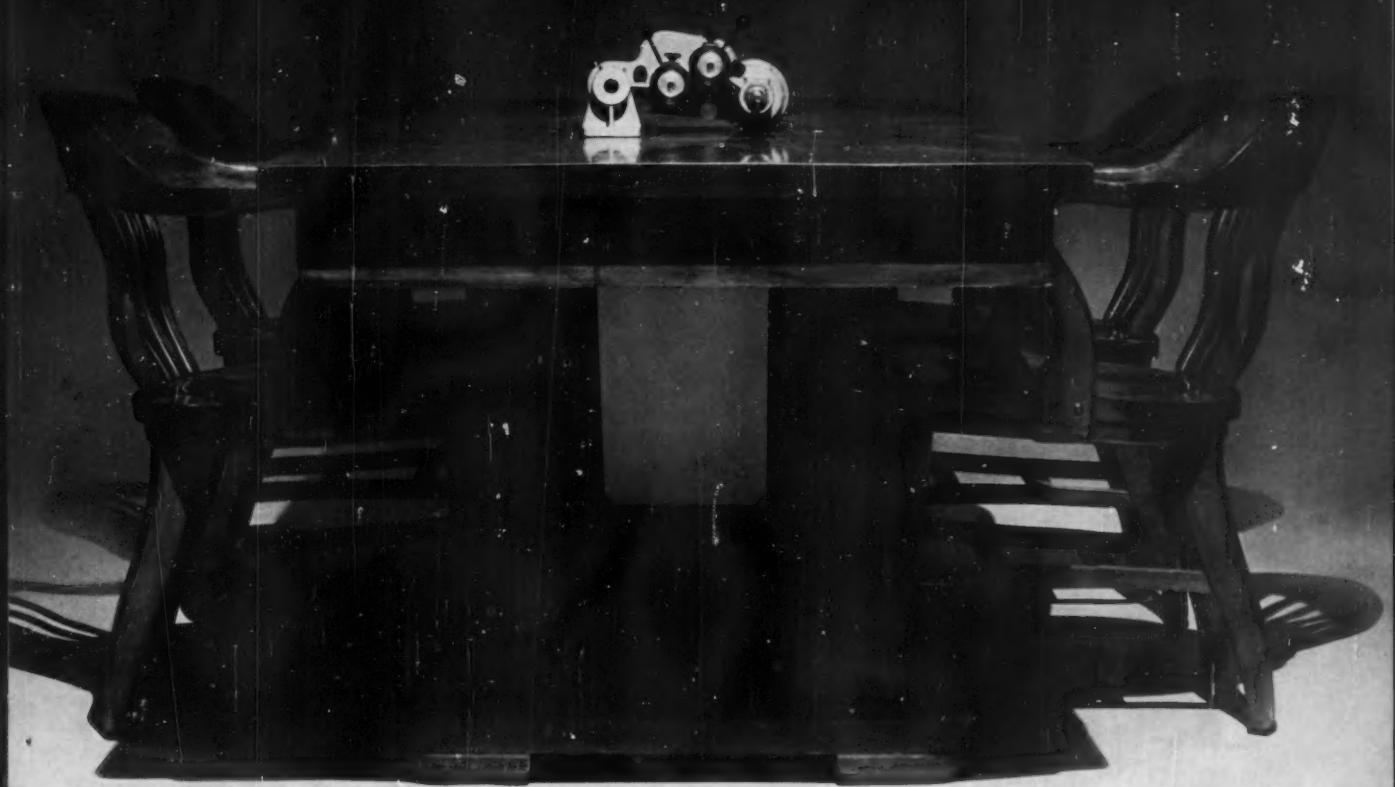
- **Superior Moisture and Grease Resistance.** Polyethylene forms a continuous film that is highly resistant to moisture and grease. It improves the shelf life of the product . . . preserves the sales-inviting appearance of the package by practically eliminating the staining problem.
- **Unusual Toughness.** Polyethylene coatings can take rough treatment. The tough film bonds to board even at subzero temperatures . . . won't crack or flake off into products.
- **Better Heat Seals.** Board coated with polyethylene forms

dependable heat seals that are as tough as the polyethylene itself. Easier sealing, too, simplifies package design and fabrication.

• **Choice of Packages.** You can use stock coated on one side — for the package interior — if you wish. Or you can improve package appearance still further by using board coated with polyethylene on both sides. The smooth, adherent polyethylene coating has superior gloss and scuff resistance. And the board can be printed before or after coating.

U.S.I. produces PETROTHENE® polyethylene resins for coating food board. PETROTHENE resins are also used in making packaging film and molded polyethylene containers. *For more information on polyethylene-coated containers for your frozen food products, contact your container supplier, or write to:*

U.S.I. INDUSTRIAL CHEMICALS CO.
Division of National Distillers and Chemical Corp.
99 Park Ave., New York 16, N.Y.
Branches in principal cities



Management has agreed . . . automatic marking, coding and imprinting methods have come a long way. And so has equipment to do the job. Precision equipment means precision results. Production men know this.

That's why Bell-Mark automatic marking machinery, printers and coders are built a little better. Do more problem jobs. Are engineered to the need.

A letter or a call will bring an illustrated brochure to your desk. A specific question will bring a specific answer.

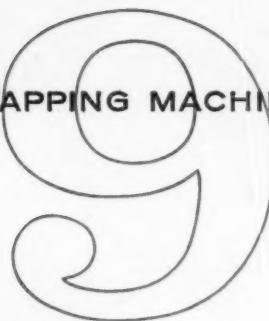


BELL-MARK CORPORATION
18 ROPES PLACE NEWARK 7, NEW JERSEY

IN CANADA: STERLING MARKING PRODUCTS LTD., LONDON, ONTARIO

*Manufacturers of coding and printing equipment,
automatic marking machinery.*

WRAPPING MACHINES



ONE OF THESE

Battle Creek model 475's will soft film overwrap your thin, rectangular or irregularly shaped products at high speed



Model for 475 General Rectangular Applications



Model 475-H for Soft Irregular Products



Model 475-SN for Square Soft Items



Model 475-S for Thin or Thick Items



Model 475-TS for Soft Rounded Shapes



Model 475-TT for Irregular Products



Model 475-N for Paper Napkin Overwrapping



Model 475-T for Textile Products



Model 475 for Rectangular Trays or Cartons

products like these can be beautifully packaged at speeds up to 75 per minute



THIN ARTICLES



RECTANGULAR SHAPES



IRREGULAR SIZES

These newly developed machines have been thoroughly field tested in more than 100 installations. All machines create attractive, weld-sealed packages in polyethylene and most of the currently available plastic films besides being

adaptable to films of the future. Our engineering service will help you choose from nine different Model 475's the machine best suited to your particular packaging needs. Send your inquiry in today.

Continuous Flow **PACKAGING**

BATTLE CREEK *packaging machines, inc.* BATTLE CREEK, MICH.



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EDITORIAL MEMO

Time for constructive action

Indicted and convicted without ever having a day in court, where does packaging stand now on the issue of so-called "deceptive packaging"?

As we reported last month, initial hearings of the Senate Subcommittee under Sen. Hart were abruptly adjourned after three days during which consumer critics of packaging held the stage virtually alone and virtually unchallenged. At the very end one witness was heard and one statement admitted which tried to set the record straight. By that time reporters had grown tired of the story, and editorial writers and cartoonists, having risen to righteous indignation, were not about to take it all back.

Spokesmen for packaging, including this magazine, who had attempted to obtain equal time in the hearings, were told that they would have their chance "later," maybe in a month or two. Now we are informed that the second session of hearings—still unscheduled—will be devoted to retailers and distributors, with packagers still excluded. Then, at a third session, packagers may be heard. Finally, Government regulatory agencies, who really hold the key to the whole question, will appear.

Isn't this a case of putting first things last? Why? Can it be that the good Senators and their paid investigators are trying to string out an issue which will continue to make newspaper headlines only as long as inflammatory accusations against the packaging industry remain unanswered?

There is work to be done and Congress ought to get at it.

In throwing out the Delson Candy test case for the second time, a Federal judge has ruled that the present law applying to "deceptive" packaging is "unconstitutional, vague, indefinite and uncertain." All packagers, including the Delson Candy Co., would welcome a law on this point which would be constitutional, clear, definite and certain.

All packagers, we believe, would welcome a reasonable regulation on the size and placement of contents statements with assurance that no competitor could take advantage. This alone would answer three-quarters of the consumer complaints heard at the Senate hearings.

There is no question of accuracy of weights and measures; this phase of packaging is adequately covered by present law.

In the hearings and headlines, one fundamental point has been overlooked. The packager has consistently been painted as a slicker out to cheat and rob the consumer. That attitude, dear Senators, went out with the Indian medicine show. Today's packager doesn't fold his tent and steal away. He's there to do business at the same stand tomorrow and tomorrow, and his sole objective is to produce an honest product that will keep the customers coming back. Will you help him or hinder him?

The Editors

Modern Packaging, Executive Offices, 770 Lexington Ave., New York 21. Telephone: TWX-NY 1-3062. Cable address: Breskinpub. Member, Packaging Institute, American Management Assn., European Packaging Fed., British Inst. of Packaging.

From Nashua's talent with paper and packaging . . .
new products that do more for you . . .

Originated by Nashua...Davac*...the gummed paper that prints, handles, looks like ungummed paper!

Davac is different! So different, you can forget that it's gummed at all! You get the same high-fidelity printing that you do on ungummed papers. You get the same "handle-ability". Davac's unique adhesive lets the paper breathe . . . prevents curl. Davac is the *ideal* gummed paper in the printing shop . . . the office . . . the shipping room . . . wherever and however gummed paper is used!

This modern label paper is another example of Nashua's talent with paper and printed packaging. Find

out how Nashua's productive research can help *you* cut costs . . . improve production . . . or stimulate sales. Write Nashua Corporation, Dept. MP-21, 44 Franklin Street, Nashua, New Hampshire.

*Davac, Reg. U. S. Pat. Off. No. 2793966

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MODERN PACKAGING

SEPTEMBER 1961

Vol. 35 No. 1

THE COMPLETE AUTHORITY OF PACKAGING



Campbell's



Kellogg's



The question of trademarks

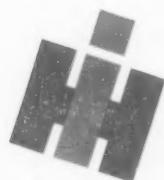
Today's packages indicate that corporations which once relied on brand identity alone now see the value of a mark that puts a firm's reputation behind every product

clint



*United C
Delco*

asgrow



Coca-Cola
REG. U.S. PAT. OFF.



BIRDS EYE
REG. U.S. PAT. OFF.

AUTOLITE



*Seabrook
Farms*

SINCE 1893



In the days when breakfast-food manufacturers made only breakfast food, meat packers packed only meats and soap manufacturers turned out only soap, the choice of an appropriate trademark to identify their packages was a comparatively easy matter in most instances.

They simply labeled them with their own surnames, because these names alone meant "breakfast foods," "meat" or "soap." Manufacturers made the initials of their corporate names into powerful symbols like GE. They selected words to suggest the quality of a product, like "Ivory." They coined inspired new words like "Jell-O" and "Kodak." They adopted friendly characters and animals for association with their products, like the Quaker Oats man, Baker's Chocolate Girl, the Bon Ami chick that "hasn't scratched yet."

The concept of this symbology is unbeaten today. The symbol of a cow's happy face in the center of a daisy—a cow known as Elsie Borden—continues to have one of the highest recognition ratings.

But with the immense recent diversification of companies and products, in this age of merger and research, trademark planning and strategy pose many complicated problems that did not face packagers during the first half of the century. It's time for an up-to-date, thorough review of the whole question of the trademark concept.

- Corporate mergers are taking place at the rate of three or more a day, grouping companies that make products as diverse as firearms and toothpaste, cake mixes and hair sprays, metal pipes and



Umbrella concept implies a strong corporate trademark that can be used to identify all of a company's products and activities. By featuring the Nabisco trademark in a triangle at top left of every package and promoting this symbol in advertising for only a few leading brands, National Biscuit wins instant recognition for dozens of items it sells under this trademark on grocers' shelves. Designers, Raymond Loewy/William Snaith.

aerosol insecticides, antibiotics and whiskey. The big question many managements are having to answer: Should we group this diversity under one corporate umbrella or let divisional names and brand marks stand by themselves?

• The cost of advertising and promotion—reportedly rising in many consumer-goods industries at a rate twice that of sales and three times that of profits—is causing many managements to take a hard look at the corporate-umbrella concept. The programming of an all-embracing symbol that can be displayed on all the packages and tied in with all consumer communication can, it is reasoned, make the advertising dollar go farther.

- The trend of heavy industry to move into the field of consumer products demands a symbol that can be transferred to the retail outlet.
- Today's clerkless retailing makes instant package recognition and brand and corporate recall imperative, if corporate advertising is to be effective.
- U. S. trademark registrations are approaching the half-million mark—increasing at the rate of about 20,000 a year with the fabulous flow of new products. Thus it becomes constantly more difficult to find a word or a symbol that somebody else is not already using.
- Rapid expansion of American firms in foreign markets calls for improved trademarks and symbols suitable for promotion in every language and recognizable anywhere in the world.
- Wider public ownership of shares in America's great industries also is making consumers aware of leading corporate names. It is to the manufacturer's advantage to have these corporate names closely associated with the packaged goods it sells.

What is a trademark?

The place to begin, certainly, is with a definition. Just what is a trademark? According to most authorities, it is a word, letter, design, device, picture or symbol used by a manufacturer to distinguish his products from those of his competitors, usually registered and protected by law.

A trade name (either the company name or a coined product name) may be a trademark—but not necessarily so. A trade name serves as a trademark only if registered as such.

Dictionaries make little distinction between "trade name" and "trademark," except to state that a trade name is better called a "trademark name" and may be protected as a trademark.

The U. S. Trademark Assn., however, makes a distinction. It maintains that a trade name is the name under which a company does business. "Del Monte" and "Arrow" are trademarks, it says; California Packing Corp. and Cluett, Peabody & Co., Inc., are trade names.

Be that as it may, trademarks may be classified into several different categories:

1. *House or corporate-umbrella trademarks* like those of Heinz, Swift, Campbell's, Nabisco, Esso, Shell, GE, IBM. These trademarks often combine a symbol with the name or initials.
2. *Brand names* like Lux, Camel, Listerine, Tide, Vel, Bufferin or Ban.
3. *Cooperative trademarks* like Miss Sunbeam of Quality Bakers of America or Calavo for avocados marketed by the Calavo Growers of America.
4. *Service marks* for companies which sell services rather than products, such as the symbol for



the Bell System of American Telephone & Telegraph Co. and those used to identify airlines, railroads, bus lines, laundries, dry-cleaning establishments.

5. *Entire packages used as a trademark*, like the distinctive designs of the Haig and Haig and Coca-Cola bottles, the first two packages to be officially accepted in toto as trademarks under the revised trademark laws of 1946 (the Lanham Act).¹

6. *Meaningful trademark symbols or characters* like the "three-ring sign" (Purity, Body, Flavor) of P. Ballantine & Sons ale and beer, the Dutch girl on Old Dutch Cleanser, the bear of the Behr Manning Co., the Gerber baby.

7. *Animated trademark characters*, creations of the TV age, like "Mr. Clean" (who also appears on the package) and the National Broadcasting Co.'s peacock identifying color broadcasts.

¹See "Its Bottle Becomes Coca-Cola's Trademark," MODERN PACKAGING, July, 1960, p. 232; "The New Trademark Law," MODERN PACKAGING, May, 1947, p. 98.

Retained but modernized. Six-month study determined that the United States Steel trademark was among the best known. Decision: Keep it, but give it more impact. Make circle wider, remove serifs and separate letters in "USS." Designer, Lippincott & Margulies.

The renaissance in trademark planning is seen everywhere. One design firm alone reports completion of at least 30 major projects in the last two years. The programs are going on in the biggest corporations as well as in the smallest companies, each with its specific objectives.

• General Motors completes a program to identify with the single name, Delco, a total of 1,200 pack-

Four significant design approaches



Appropriate characters can continue to be powerful salesmen for many years. The happy face of Elsie the Cow in the center of a daisy still gives Borden's one of the very highest recognition ratings. Designer, Frank Gianninoto.



Abstractions provide rapid, memorable shorthand symbols. Two vertically opposed free-form diamond shapes, combined with Johnson's Wax name, pull a family of S. C. Johnson packages together. Designer, Lippincott & Margulies.



Initials of company names can offer endless possibilities for distinctive marks. Square "G" and circular "C," worked into symbol for Graphic Controls Corp., unite packages of six acquired firms. Designer, Robert Zeidman Associates.



Stylized treatment is exemplified by impressionistic lion for Vail Mfg.'s Monarch line of paper fasteners. Lion's deep chest and clawed feet comprise massive letter "M" surmounting the "Monarch" name. Designer, Morton Goldsholl.

ages for hundreds of repair and replacement parts produced in 12 parts-manufacturing divisions (see "For GM, 1,200 Designs on a Single Standard," beginning on p. 124 of this issue).

• *U. S. Steel Corp.* revamps its famous USS mark as a signal part of its three-pronged advertising, marketing and merchandising program to point up the advantages of steel at the retail and consumer level. Designed by Lippincott & Margulies.

• *Westinghouse Electric Corp.* makes the fifth revision of its Circle W trademark in the company's 74-year history to improve identity; to offer increased flexibility, pictorial interest and memorability; to suggest ideas pertinent to the company's business—molecular structure, wires and plugs, a wiring diagram, tubes and light bulbs, symbolic of electrical industry. Designed by Paul Rand.

• *Olin Mathieson Chemical Corp.* adopts a new signature, Olin, to bring together six diverse manufacturing divisions in a \$2,500,000 national advertising campaign under a single simplified mark. Designed by Lippincott & Margulies.

• *Minute Maid Corp.* with its new MM symbol aims to regain brand individuality and quality among competing brands, some of which, the company says, have begun to adopt too many elements of the old Minute Maid label.

• *Singer Sewing Machine Co.* modernizes its letter-S and sewing-girl symbol, and completes a design-control program to assure consistent development of its trademark and packaging program worldwide. Designed by Raymond Loewy/William Snaith.

• *Foremost Dairies* gives its F signature a more friendly feminine look and extends its use contin-

The growing importance of corporate identity



General Foods Kitchens

symbol is now appearing as over-all background motif on this new Post Cereal package. Same symbol is used as a single element on most GF packages being marketed today.



Lever Bros. Co. puts its Lever House symbol next to its corporate name on many packages.



Procter & Gamble still carries an almost unnoticed "man-in-the-moon" symbol with the firm's signature on almost every package it produces.



1900



1910



1922



1940



1953



Evolution of the Westinghouse mark. The fifth revision is designed to sharpen identity and increase memorability. It is also believed to be far more appropriate for the company's business, suggesting molecular structures, wires and plugs, as well as tubes and electric-light bulbs. Designer, Paul Rand.



ually as a corporate symbol to supplant local divisional marks. The Foremost trademark is now actually replacing the well-known Golden State mark in California due to acceptance of the corporate mark built up by advertising and promotion. Designed by Frank Gianninoto.

• *General Mills* wins stand-out recognition among the confusion of pictorial packages with its distinctive Betty Crocker spoon trademark and brings all General Mills cereal brands under a corporate umbrella with its "Big G" General Mills signature prominently displayed on each of the packages. Designed by Lippincott & Margulies.

• *The Frito Co.*, rapidly emerging from the status of a regional organization to that of a national food producer, develops a "barred oval" mark enclosing the brand name, Fritos, to identify all packages with its national promotion. Designed by Dixon & Parcels Associates.

The problems are often more perplexing to little companies than to big ones. Two small firms in the packaged-snack business, each with well-entrenched trademarks, merge to reduce selling and distribution costs. Is it better to continue selling under two competing trademark names in the same markets or to combine under the trademark of the one with the greater consumer acceptance? Some loud table pounding behind management office doors is going on over this one in many companies where there have been recent mergers.

And there are instances where serious losses have been experienced when the brand image has been altered too fast. A regional New England food manufacturer, expanding into new lines, decided on a modernized version of its trademark. When it put the new version on its oldest and most successful product, sales fell off sharply. It went back to the old label fast. But management is not satisfied. It knows the old design is outmoded and wants to bring it into line for a stepped-up brand advertising program. But how should it be done? These situations deserve the most experienced design advice a firm can obtain to solve such problems.

Much can be learned by studying some of the famous trademarks that have stood for years.

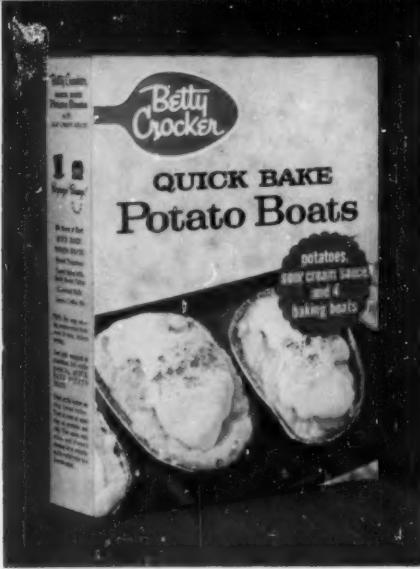
The ideal, obviously, is one over-all mark that will be identified with all of a company's products and activities. Many firms, among them General Electric Co., were foresighted enough to visualize the benefits of this years ago. And the concept has proved to be extremely valuable in this day when clerk service is almost non-existent and the trend to discount merchandising has made the trademark just about the customer's only guide.

Many other manufacturers have followed GE's precept on the corporate-trademark principle and are enjoying continually greater advantages from it as the years go by. International Harvester announced adoption of a mark to tie all its divisions and products together in 1945 and the stylized "IH" is now recognized the world over. About 10 years ago, National Biscuit Co. chose as a house mark the word Nabisco (a contraction of its corporate name) and combined it with the company's famous colophon design in a triangular symbol now appearing in the upper left-hand corner on the face of every one of its packages. By promoting this device in advertising for only a few leading brands like Ritz, Premium and Oreo, this firm has won quick recognition for the dozens of other packaged items it sells under this trademark on grocers' shelves. Since acquisition of the Dromedary line, National Biscuit has seen fit to identify this division's packages with the same Nabisco trademark. The symbol is smaller on the Dromedary packages, but it's there unmistakably.

Canada Dry Corp. simplified its map-in-a-shield trademark, originally used only for ginger ale, for use as one single trademark for its entire line of different-flavored carbonated beverages and, recently, for its new line of alcoholic beverages.

Which way will they jump?

Dozens of companies whose products are sufficiently related can take this approach successfully. Others for whom the problem is more complicated



Spoon symbol gives Betty Crocker packages instant recognition among the confusion of pictorial food packages crowding retail shelves.

appear to be on the fence—making sporadic attempts to achieve a unified corporate symbol. Still others, because of merchandising policies or products that do not lend themselves to corporate family programming, may never try it.

General Foods owns some of the most valuable brand names in food merchandising—Jell-O, Birds Eye, Maxwell House, Swansdown, Post Cereals, Baker's Cocoa, Minute Rice, Minute Potatoes and others. Each of these is, in itself, a trademark.

For years, General Foods has invested heavily in research to build its enviable corporate reputa-

tion for quality convenience products and in public relations programs to establish itself as a top leader in food manufacture. It commissioned a top-notch designer a few years ago to create a GF trademark, but apparently has not used it widely in corporate promotions. A sign that General Foods may still be keeping the corporate trademark idea alive, however, is the appearance on many GF packages of a small pictorial symbol of a mixing bowl, spoon and measuring cup combined with the words, "General Foods Kitchens," and a line reading "another fine product from General Foods Kitchens."

Another straw in the wind is a new Post Cereal package on which the General Foods Kitchens symbol has been introduced as an over-all repetitive background motif covering the entire surface of the front panel of the package.

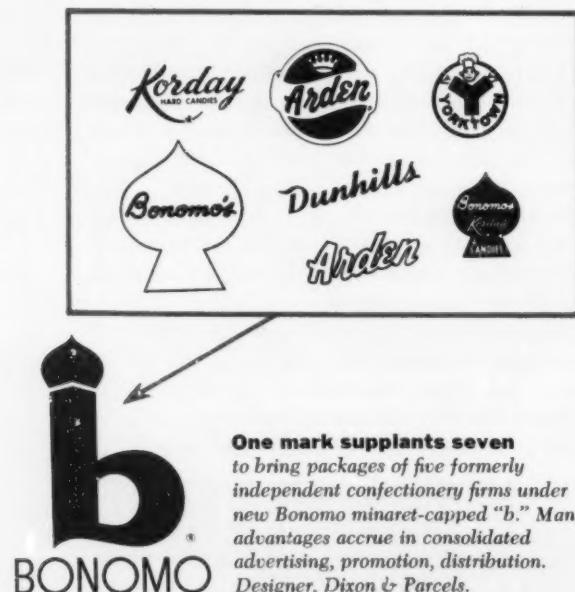
Other leaders in packaged-goods fields are not unaware of the effectiveness of corporate symbols, even though their chief strategy may be the promotion of individual brands. This is revealed by careful examination of their packages.

Procter & Gamble, a big spender on individual brand advertising, keeps alive on almost every package a tiny, oddly out-of-date and almost unnoticed symbol of what looks like the man-in-the-moon next to its corporate signature. In this day when a younger generation is growing up in an atmosphere of space-age symbols, P&G may have a hidden asset in the modernization and broader use of this mark. You can even find a P&G package on the market with the corporate name printed boldly above the brand name on the face of the package—"Procter & Gamble's Cascade"—a detergent for automatic dishwashers.

Lever Brothers Co. for a number of years has carried rather inconspicuously next to the signature a corporate symbol of Lever House, its Park Avenue (New York) office building, on many of the packages which it markets to consumers.

Leading package designers are of the opinion that—for sound economic reasons—there is going to be a wider and more prominent use of such marks. The cost of communications is becoming so high, they say, that few packagers can afford a full-hour TV program to promote a single brand. By using a strong corporate trademark, they can advertise a few leaders, as National Biscuit does—yet win recognition and acceptance for dozens more which carry the same mark at the point of purchase.

The principle, however, is not always applicable. C. A. Swanson & Sons is now a division of Campbell Soup Co., but Campbell apparently has no intention of putting Swanson conspicuously under the Campbell Soup name, [Continued on page 241]



Pop-out pack for golf balls

Unusual dispensing carton helps Worthington draw attention to an improved product in which the improvement—a new steel center—doesn't show

When a product improvement doesn't show, what better way to give it drama than with an eye-catching new convenience package?

So reasoned Worthington Golf, Inc., Elyria, Ohio, when introducing its steel-center golf balls this season. The steel core of the ball is said to contribute to more accurate driving and putting, and to warrant the ball's premium price. On the surface, however, it looks like any other golf ball. So Worthington chose a three-ball window carton with a dispensing feature which provides golfer convenience and encourages multiple sales.

Using the Worthington carton, a golfer can keep new balls fresh and separate from used ones with a minimum of effort. He need not open or close any carton flaps, but merely pulls either of the carton's two open ends and a ball pops out. Remaining balls stay securely locked in until they are intentionally removed by the golfer.

The dispensing feature is made possible by the carton's bellows-like construction. Supplied to Worthington in the flat, the carton has four diamond-shaped cut-outs near the top and bottom corners as well as two oval windows of acetate film in the center. Worthington fills the carton manually, but uses a special jig to set it up. When erected, the carton has been creased horizontally between the cut-outs. Thus four flaps have been folded inward near each end to keep the balls in place even though an area $\frac{3}{4}$ in. square remains open at each end.

The windows extend across the top surface and down into the two side panels. Graphics are purposely kept simple because of the package's small



One-ball-at-a-time dispensing feature of new package for three Worthington golf balls keeps remaining balls fresh, clean and in place. Removal can be from either end.

size and to allow the dispensing feature to dominate. The carton is lithographed in blue and black on solid bleached sulphate with an over-all varnish overcoat. The design consists of an all-over pattern of blue pin-stripes and the Worthington name in black and white on a blue panel separating the window. A promotion line—"Flies true, rolls true, puts true"—runs the length of both side panels. The words "Worthington pop-out carton" and instructions to the user to "pull" are printed at both ends, since balls may be removed from either end.

The company is convinced that the novelty value of the package and sales results it has achieved justify a cost slightly higher than that of window cartons with conventional tucked flaps.

The carton is also durable. Sold to dealers by the dozen balls, four packages are packed in a paperboard display carton. Worthington has found that the new package is more rigid and less susceptible to damage than are the conventional cellophane-overwrapped trays used for golf balls.

SUPPLIES AND SERVICES: Carton by St. Regis Paper's Great Lakes Box Co., 7275 Wentworth Ave., Cleveland. Graphic design by Thomas H. Davis, Elyria, O.

Components consist of regular-slotted corrugated box which holds products, specially engineered top and bottom trays, and two die-cut, scored, folded and glued end-locking pieces, each equipped with a nylon tear tab. Here top tray is being slipped over locks to close container.



Self-locking shipper

That specialized training in packaging does pay off for industry is demonstrated by the development of a new self-locking corrugated container adopted by the Timken Roller Bearing Co., Canton, Ohio.

This new re-usable container which does away with costly crates and wire-strapped boxes for the shipment of heavy, bulky hardware is almost entirely credited to the collaboration of two recent Michigan State University graduates—one employed by Timken, the other working for a corrugated-box supplier in the Ohio area. The two men are alumni of Michigan State's School of Packaging—the only four-year college curriculum leading to a degree in packaging.

The reportedly tamperproof self-locking box can be opened without tools. Because no razor blades, band cutters, claw hammers or screw drivers are needed for unpacking, boxes are undamaged for re-use. Because of the ease with which the boxes may be securely locked for shipment, they eliminate entirely the cost of strapping materials, mechanical equipment and labor for this operation.

This is how it came about: Fred Holcomb, Michigan State '58, working under Michael Benach,

superintendent packaging and shipping at Timken, had a friend, Kenneth Niedringhaus, Michigan State '59, who was working for a corrugated-box supplier in a nearby Ohio town.

When the problem of developing a better packing method came up at Timken, Holcomb took it to his Michigan State associate. Both had had experience at school in the design and testing of corrugated containers. Together they engineered the self-locking design now used 100% by Timken for its shipments in hardware-type containers.

The construction consists of a regular slotted container, two corrugated trays and two specially designed, die-cut, scored and glued end-locking pieces, each equipped with a nylon tear tab.

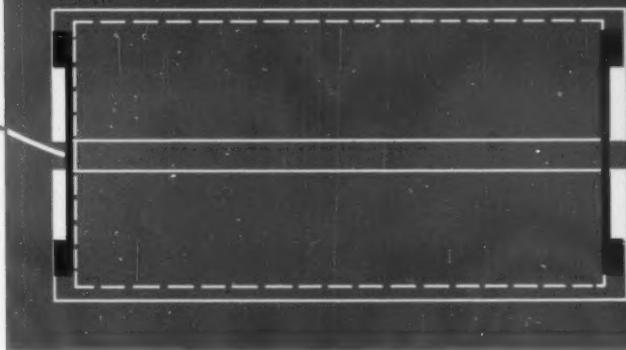
The product is packed in the regular slotted container, which in turn is placed in the bottom tray. The two end-locking pieces are positioned vertically between container and bottom tray. The top tray is placed over the regular slotted carton and end-lock pieces until the interlocking members snap tight. Once locked, the container stays locked and it can be opened only by means of the nylon tear tabs which release the end locks. There is no dam-



Nylon tabs permit easy access to release the locks. Since no tools are used in opening, the boxes remain undamaged for re-use. Only the end-lock pieces need replacement.

End locks (shown in black) engage top and bottom trays, securely locking container. Tests demonstrate that holding strength of end locks exceeds 550 lbs. of vertical pull.

Two Michigan State graduates develop tamperproof corrugated container for Timken that eliminates entirely the cost of strapping materials, mechanical equipment and labor for such operations



age to the containers on opening. Only the end-lock pieces need to be replaced for container re-use.

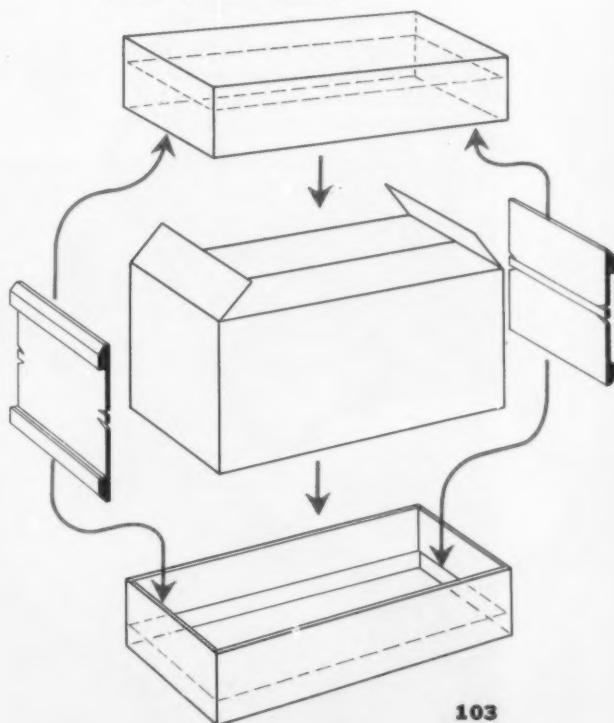
Tests by Timken and independent research laboratories have demonstrated that the holding strength of the end locks exceeds 550 lbs. of vertical pull. Safe-transit tests were made with a number of the new containers and in each case the individual boxes remained securely locked. The special corner construction reportedly guards against tearing at the score lines, thus improving bursting strength.

Acceptance of the new boxes is indicated by enthusiastic user reports Timken has been receiving:

"No more boxes cut by straps. Keep them coming." . . . "We don't have to open and repack a shipment. The unbroken seal is our security." . . . "This type shipping container is a time saver." . . . "We have not yet had a case that was not properly locked." . . . "These boxes have less tendency to become entangled with each other on the floor of a warehouse or truck." . . . "These new containers have been found to be so perfect, we feel it would be a waste of time to say more."

SUPPLIES AND SERVICES: Corrugated "Lok-Box" produced by Massillon Container Co., Navarre, O.

Schematic shows how the five pieces of the self-locking container fit together.



LIQUID SKIN FOR

A totally new type of machine to package luncheon meats, just installed at the Stoppenbach Sausage Co., Jefferson, Wis., could have broad ramifications in the packaging of other foods and many non-food products as well.

It applies an opaque polyethylene/wax compound in a liquid sheet which hardens almost immediately into a tough, high-barrier film conforming to either round or square product shape. Under development is a similar machine to apply transparent straight liquid polyethylene or saran, suggesting broader packaging possibilities for this process.

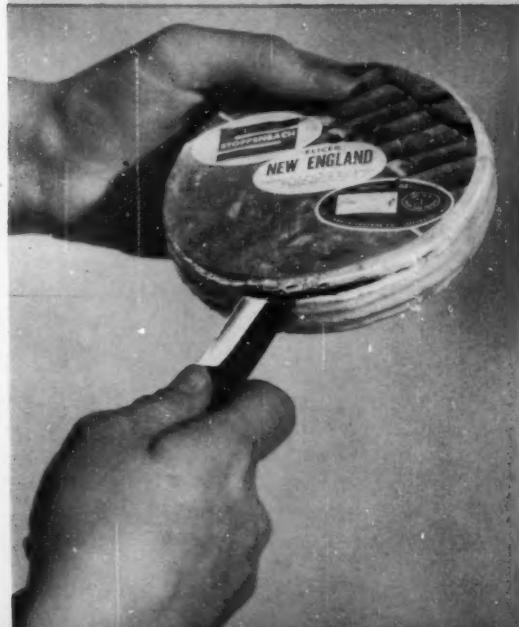
In the few months that the coating machine has been operating, sales of Stoppenbach's 6-oz. packaged sliced meats have more than doubled, labor costs for a completely new packaging line have declined 40% (with greater savings reported to be imminent) and the company now hopes to enter interstate commerce after 65 years as a Wisconsin-only marketer (265 employees, \$11,000,000 sales).

While the machine is capable of covering all

product surfaces with wax—from 0.025 in. thick on the sides to 0.040 in. on the bottom—Stoppenbach leaves one surface open to show the meat. It overwraps the waxed product with $\frac{1}{2}$ -mil shrinkable uncoated polyester film and applies a three-color lithographed label to the bottom. Even with this labeled overwrap, using a relatively high-priced film, the total package cost, including labor, is moderate—only $\frac{1}{10}$ of a cent higher per unit than an all-polyester or all-saran wrap and as much as 3 cents less than a metal base with film wrap widely used for luncheon meats, Stoppenbach reports.

Eliminating the need for vacuum or nitrogen-flush packaging, this new process, the company says, avoids the "slimy" effect often resulting from such methods. Also, this package has a reclosable feature. The user merely slices off the waxed base of the package, removes as many slices as desired and then replaces the waxed portion as though it were a lid. Keeping qualities of the meat before opening are said to be better than those of other

Opening of new polyethylene/wax-coated package of sliced luncheon meat requires knife slit around 0.025-in. side wall. Paper-labeled package, with printed reproduction of luncheon meats on surface, is overwrapped with polyester shrink film.



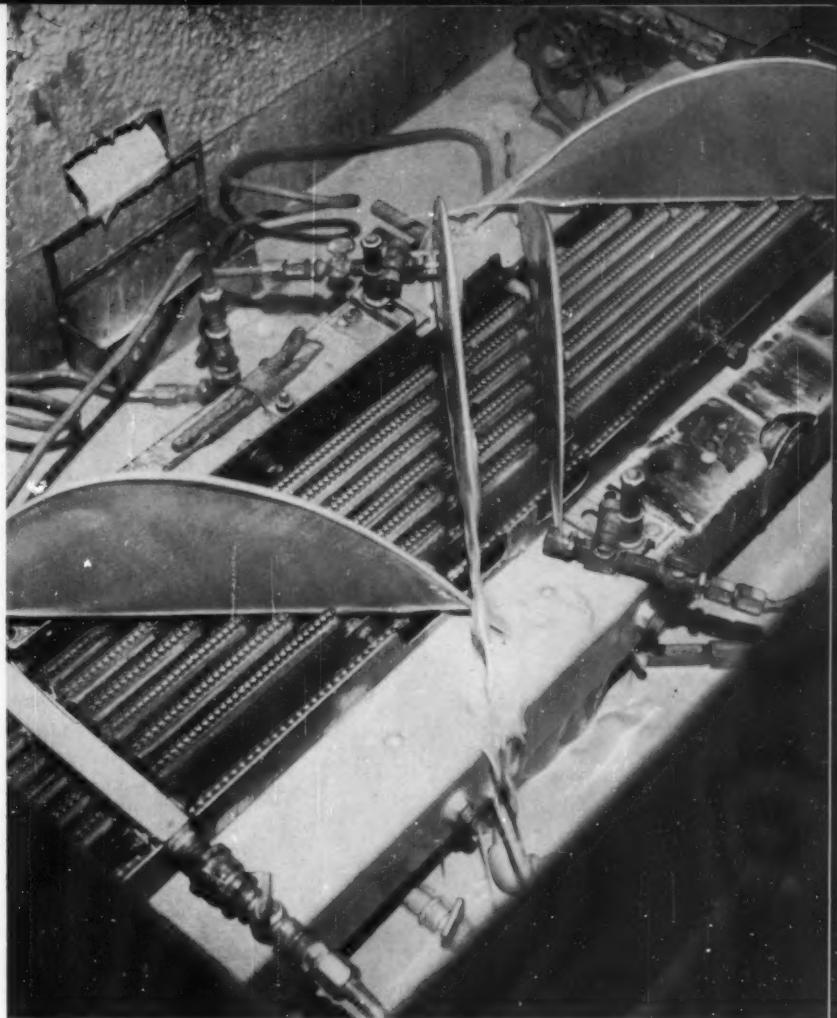
Removing product from the package is accomplished simply by lifting off disk of opaque white polyethylene/wax and taking out number of slices desired.



MEATS

A new machine adopted by Stoppenbach coats stacked luncheon slices with polyethylene/wax; a shrink-film wrap completes airtight package with doubled shelf life and a 40% saving in over-all labor cost

Reclosing package is accomplished just as simply—same paper-labeled disk is used as a fitted lid to protect the remaining unused slices of meat.

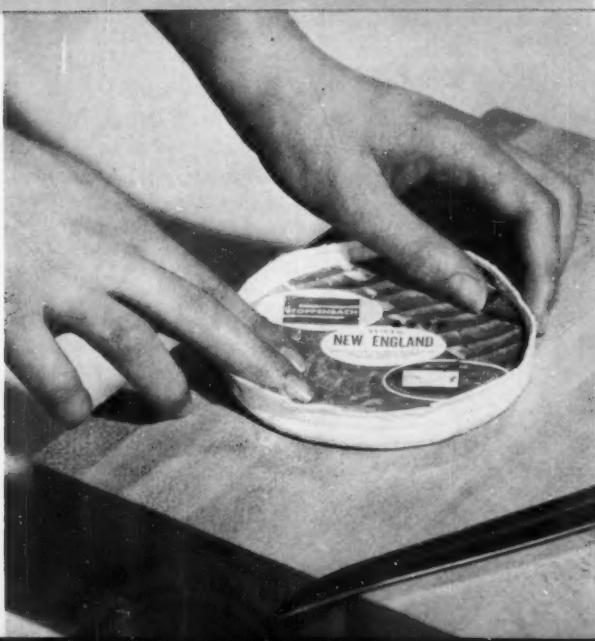


Four arcing sheets of liquid polyethylene at 160 deg. F. coat side walls as stacks of meat slices move on steel-mesh conveyor. Arcs shown are liquid sheets of the coating—not cheesecloth, as they might appear. Height of the arcs is set to avoid coating top of product. (Photograph does not show product because the machine's protective cover that prevents splashing was removed to show this operation.) Nozzles spray continuously and surplus wax is filtered and recirculates. Note white bar at lower left, one of two "bottomers" to apply wax to the bottoms of the packages.

PHOTO COURTESY LIQUID FILM

packaged luncheon meats; after opening the container, meat packaged by this process is reported to stay fresh and appetizing for twice as long.

Stoppenbach is a long-established specialty meat producer that for many years sold only to the delicatessen trade. Sliced, packaged items for sale in chain and independent grocery stores are a fairly recent innovation for the company and represent a still-small percentage of total volume. The company had tried a number of packaging methods for these items—including hand wrapping in saran and nitrogen flushing and vacuum packaging with polyester-saran pouches—but all were too expensive and provided unsatisfactory protection to the premium-quality products. In fact, just before it learned of the plastic/wax method, Stoppenbach was about





In-store mobile above shopper tells her about Stoppenbach's "Serve 'n Seal Pak" and pictures convenience of its use in three steps.

to revert to its status as supplier of unsliced meats.

The new package is handsome and distinctive. The glistening white wax on sides and bottom gives an appearance of cleanliness, while the polyester film's clarity adds sparkle to the wax and displays the meat to advantage. Although sealing temperature is high (about 400 deg. F.), the company reports that it has encountered no sealing problems.

Along with the plastic/wax machine, Stoppenbach has installed an all-new packaging line now working efficiently with three operators. Former packaging methods required five operators for the same output—25 units per minute. Packaging output will be upped to 50 units per minute as soon as a second slicer is installed. The 100% increase in packaging speed will require no changes in the plastic/wax machine or other packaging equipment and will at most call for only one additional operator, Stoppenbach believes.

At the start of the packaging line, stacks of seven slices each move into a small leveling device which smooths out the tops. Both conveyor and leveler are controlled by an automatic clutch wired to a microswitch on the overwrapper some 20 ft. away. When the overwrapper is [Continued on page 233]

SUPPLIES AND SERVICES: Plastic/wax coating machine by Liquid Film Corp., Butler, Wis., using special polyethylene/wax compound by Candy & Co., 2515 W. 35 St., Chicago 32. Model M Wrap King overwrapping machine by Crompton & Knowles Packaging Corp., Holyoke, Mass., using 50-gauge shrinkable Mylar polyester film by E. I. Du Pont, Wilmington 98, Del. Labels by Union Bag-Camp Paper's Miller & Miller subsidiary, P. O. Box 865, Atlanta 1, Ga. Shrink tunnel by Great Lakes Stamp & Mfg. Co., 2500 Irving Park Rd., Chicago 18.

PHOTOS COURTESY STOPPENBACH

Tops—unwaxed and film covered



Bottoms—waxed and paper labeled



On display, product is seen through unwaxed, film-covered tops of packages (upper row). Bottoms of packages (lower row) are paper labeled with full-color reproductions of meat slices and foods they can be used with. Wax-coating machine handles either square or round packages.

'DECEPTION': progress report

In the wake of headline-making Senate hearing on 'deceptive packaging,' with more to come before packagers have their say, the industry begins to take positive action to set the record straight

Any packaging man who has been reading his daily newspapers now knows—just as MODERN PACKAGING warned in a special news report in its August issue*—that Washington's current attack on "deceptive packaging" has created a situation of the utmost seriousness. It is unfortunate but true that just about every company that packages a consumer product has come under suspicion of unscrupulous dealing, thanks to some well-intentioned (but largely misinformed and thoroughly publicized) testimony delivered before the Senate Antitrust and Monopoly Subcommittee, which is conducting a series of public hearings into so-called deception in packaging and labeling of such products.

The Subcommittee's first session, late in June, was devoted almost exclusively to complaints about "underhanded" packaging delivered by representatives of consumer groups. What little chance packaging had to defend itself was smothered under an avalanche of headlines and editorial comment as the nation's press played up the provocative and seemingly logical comments of witnesses.

Under such headlines as "Modern Housewives are Frequent Victims of Packaging Trickery" and "Cheat Wave Hits Nation," newspapers from coast to coast gave detailed accounts of the three-day session. At least two national news magazines—*Newsweek* and *U. S. News & World Report*—carried lengthy stories, without attempting to present packager viewpoints.

Matters threaten to become worse before they improve. The Subcommittee will resume its hearings sometime this fall (the dates have not yet been set), taking testimony from retailers, supermarket-chain executives and grocery-product brokers.

Contrary to previous word, packagers will not be able to get their explanations and defenses into the public record until a third hearing later this year.

The Senate hearings, under the direction of Sen. Philip A. Hart (D., Mich.), will wind up with a fourth session, comprising opinions from such interested Federal agencies as the Food & Drug Administration, the Federal Trade Commission and the

Office of Weights & Measures, National Bureau of Standards. At least, that's the information from Washington as of the present moment.

Packaging-field action

However, packaging men—who also are concerned with the stepped-up drives by F&DA and FTC against deception—aren't waiting to be invited to Washington before taking decisive action in their own behalf. There already are indications that the industry is recovering rapidly from the shock of being dunked in the classic cold bath of common guilt by half-truth and misinformation.

Among recent developments which have the broad intent of bringing the "deceptive-packaging" situation into perspective:

- **The Packaging Institute** is organizing a committee whose functions will include the formal answering of some of the charges being leveled at consumer packaging. PI says that the committee also is expected "to draw up recommendations to the appropriate government regulatory bodies, to eliminate the confusion and ambiguities in the present regulations regarding content statements and other aspects of packaging which can be misunderstood by the consumer."

Chairman of the new PI committee is Lloyd Stouffer, editor of MODERN PACKAGING.

PI also has taken the direct action of inviting Sen. Hart to be the main speaker at a feature luncheon during its annual National Packaging Forum next month. The Senator has accepted.

- **Other packaging-field associations**, including the Produce Packaging Assn. and the Grocery Mfrs. Assn., also are taking positive steps. PPA has established a trade practices committee to conduct "self-appraisal" of industry packaging standards.

- **Many major packagers** of consumer products are reported to be conducting exhaustive revaluations of their packages and packaging-line operations, to insure against any charge of deception. MODERN PACKAGING also has learned that one of the packages (for a top-selling household product) exhibited at the Senate hearing in June as an ex-

*See 'Deceptive Packaging,' MODERN PACKAGING, Aug., 1961, p. 107.

ample of deceptive labeling already is being revised to eliminate the "deceptive" aspect.

Industry replies to some of the major criticisms of packaging heard at the initial Subcommittee hearing also came this month from Paul S. Willis, president of Grocery Mfrs. of America, which represents hundreds of packagers of supermarket products. Answering questions put to him by MODERN PACKAGING, Mr. Willis reflected packagers' points of view on the following problem areas:

On slack-filled cartons: "Packagers employ mechanical 'shakers' to settle dry cartoned products as they move along the conveyor. When the carton leaves the factory, it is full and contains the net weight specified on the label. Because the carton is handled many times in transit, the product naturally settles still further and the package may seem slack filled when opened. But full contents are there."

On partially filled containers: "It is often not practical to fill containers right up to the top, since it is likely to cause spillage and product waste." (Ed. note: This is a common consumer complaint about ground coffee in cans filled to the rim.)

On fractional-ounce label designations: "Manufacturers have many ways in which to find out what consumers like and are guided accordingly. Some packages contain fractional ounces because they are packaged on a 'servings' basis, designed to provide two or more servings per package. The content of the package is plainly marked, so there is, in this instance, no intention of deception."

On "oversized" packages: "To provide products at reasonable prices, manufacturers have invested many millions of dollars in machinery to do an economical job. These machines are set to handle certain-size packages. For efficiency and economy, some manufacturers use the same-size package for a variety of products. Some of them may not quite fill the package, but they meet the specified content."

The consumers write

No thinking person can deny that packaging in general has suffered an unwarranted black eye as a result of the hullabaloo being raised by the Senate investigation. However, it is no less deniable that—as in any industry—there is a minuscule minority of packagers who skirt the fringes of legality in their dealings with the public. And certainly there are some perfectly legal and absolutely necessary packaging practices (much of what has been wrongly tagged "slack fill," for example) whose reasons for being are not understood by the average consumer—who is, naturally, uneducated in many aspects of the packaging industry.

In light of these factors, it is understandable if regrettable that the Senate hearings have captured the imagination of the public. Less than three weeks after the close of the Subcommittee session in June, some 600 unsolicited letters had poured into Sen. Hart's Washington offices. According to the Senator, all but four applaud his efforts.

During a recent follow-up visit to Washington, a

Newspaper cartoonists find it fun to take pokes at packaging; these two were widely syndicated.



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MODERN PACKAGING editor browsed at random through a shipping carton full of these letters. Following are some representative excerpts:

From a Michigan housewife: "I am glad someone in Washington has come to the rescue of the millions who haven't majored in higher mathematics."

From an 80-year old pensioner: "One must always spend time to hunt for weight figures and often must use a pocket lens to read the print."

From an executive of a leading Dallas department store: "I think your committee is rendering a fine public service in bringing such practices into the open and I sincerely hope that voluntary industry action or legislation, if needed, will be enacted."

From a Southern householder: "Like many other consumers, I have been stung—and not because I am not careful but because I sometimes give up in quiet desperation after five minutes or more of mathematical mental exercises."

From a Tennessee housewife: "For years I have deplored the increasing size of grocery-product packages in relation to their actual content."

What can be done

These letters and hundreds more like them indicate that consumers are not altogether satisfied with packaging today—however much effort and money packagers are investing to provide the utmost in convenience, functional value and protection.

Disregarding the rights or wrongs, the inescapable fact is that consumer-goods packaging has been forced into a defensive position. And the imminent resumption of the Senate investigation into "deception," as well as the renewed interest being shown by F&DA and FTC, make it clear that the time is right for forceful action to offset the bad publicity and to forestall the threat of legislative action.

The way to do it, according to some industry authorities, is for packagers themselves to take the initiative in making the changes necessary to put consumer packaging above reproach—perhaps by means of closer cooperation with Government agencies in the establishment of regulations.

Precedents exist. An apt example is the Bristol-Lund Formula, an industry standard for determining the proper dimensions of a carton for collapsible tubes. The formula (named for its proponents, William M. Bristol, II, of Bristol-Myers and Joel Y. Lund of Lambert Pharmacal) was developed some years ago in cooperation with F&DA, which had objected to many collapsible-tube cartons on the ground that they were oversize and therefore were deceptive to the consumer.

All but lost in the backwash of the Senate subcommittee hearings is the bitter—and momentously significant—legal struggle between F&DA and the

QUAKER OATS CASE

The Government on July 20 seized quantities of Quaker Oats puffed wheat and puffed rice in Camden, N.J., and Baltimore on grounds that packages ranged from $\frac{1}{4}$ oz. to 1 oz. underweight. Quaker Oats Co. immediately recalled all packages shipped from its Shiremans-town, Pa., plant, serving the Eastern states, and explained that the error had occurred due to a new process used in this plant which puffed cereal grains more uniformly—a desirable improvement which, however, gave a bulkier fill. New labels reducing the stated weight were ordered, but apparently a quantity of the old labels was used in error by the company.

Delson Candy Co. as to whether or not the Delson Thin Mints carton constitutes deceptive packaging.

The importance of the Delson case cannot be overstated. If F&DA wins, it will be its first such victory in the courts. More to the point, a Government triumph, with attendant judicial opinion, will go far toward clarifying the ambiguous language of the Food, Drug & Cosmetic Act and will give F&DA long-awaited legal precedent for taking off against other "offending" packages.

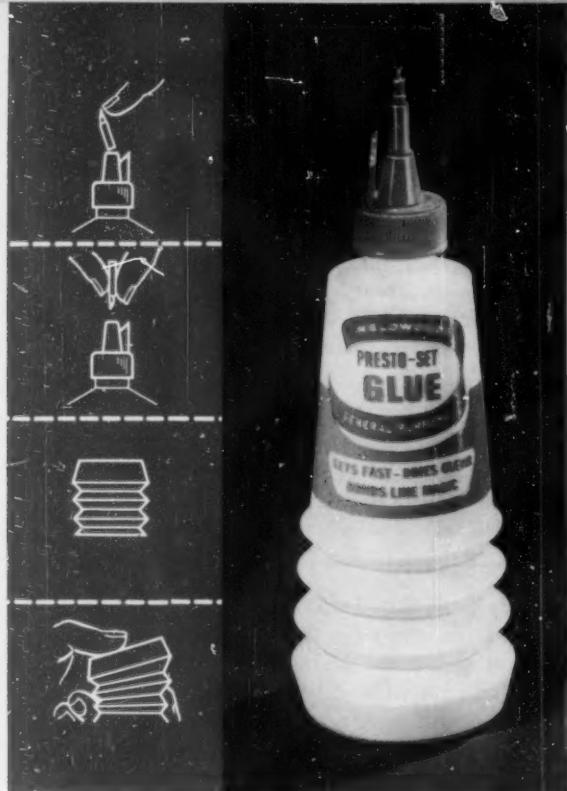
F&DA is not at all discouraged by the latest district court opinion upholding Delson.

The case is now in the Attorney General's office awaiting F&DA's next move. A spokesman for the agency told MODERN PACKAGING that it will recommend to the Attorney General that the case be returned for review to the Third Circuit Court of Appeals in Philadelphia. This is the court that earlier in the year gave F&DA hope for ultimate victory when it remanded the case to the district court for clarification of the latter's findings.

Summary

It has been a long, hot summer for consumer-goods packagers, with much of the heat emanating from Washington. No immediate relief is in sight from that quarter as the well-publicized "deceptive-packaging" hearings of the Senate Antitrust and Monopoly Subcommittee prepare to resume, without giving the packaging field an opportunity to enter a public defense until still later in the year—and perhaps not until early next year.

However, there are encouraging signs that packaging men, acting on their own initiative, can and will take the decisive action that now seems necessary to reassure consumers that the neighborhood supermarket really is not—as has been implied by otherwise sophisticated people and broadcast throughout the nation—a lush preserve in which greedy manufacturers can set their packaging traps to filch the hard-earned pennies of the multitude.



Bellows-action squeeze bottle

Improved dispensing features are noted in the design of a polyethylene squeeze bottle for Weldwood Presto-Set glue, introduced by the United States Plywood Corp. for use on wood, paper, cloth, fabrics, leather and other porous materials. The new convenience features are illustrated by the diagrams shown opposite. The one-piece molded polyethylene cap is opened by snipping off the tip, which is used for reclosure when the snipped-off tip is inverted and reinserted. After the tip is snipped off, the vertically projecting flange on the cap serves as a spatula to spread the glue on a desired surface. The accordion design of the bottle permits the container to be used as a bellows to dispense the glue in a steady, even flow by squeezing from the bottom. The container is molded of translucent polyethylene so that the consumer may observe the level of contents as it is used. When full, however, the white glue provides an opaque white background for the red-and-blue heat-transfer labeling. The red cap complements label colors. *Polyethylene bottle by W. Braun Co., 300 N. Canal St., Chicago 6. Cap by Stull Engraving Co., Garfield, N. J. Therimage labeling by Dennison Mfg. Co., Therimage Div., Framingham, Mass.*

Ideas in Action

Polyethylene wrap on Kellogg's cereal six-pack



Kellogg's has switched to polyethylene film as the overwrap for its popular Snack-Pak, a multipack of six individual-size packages of pre-sweetened cereals. Strength and protection are the reasons given for the change-over. The material is 1.5-mil medium-density polyethylene, colorfully printed. It is automatically applied on equipment designed for handling polyethylene. According to the supplier of the film, polyethylene overcomes seasonal problems by eliminating cold-weather breakage, thereby extending the shelf and storage life of these cereals. Although no cost data are available, it is reasonable to assume the new wrap represents savings. Based on present price lists, #450 cellophane MST-54, which Kellogg's was using, costs 0.0443 cents per 1,000 sq. in., whereas price of 1.5-mil medium-density (0.928) is about 0.023 cents per 1,000 sq. in. A further advantage is the improved protective feature for consumers. After the wrap is opened and one package taken out, the pack may be reclosed with a simple twist of the polyethylene wrapping, thereby keeping remaining individual cartons fresh longer. *Polyethylene film by Visking Co., Div. Union Carbide Corp., 6733 W. 65 St., Chicago 38, using Bakelite polyethylene resins.*

Polyethylene beer cases

Duquesne Brewing Co., Pittsburgh, has adopted a new plastic shipping case for beer which may be the beginning of a sweeping new trend in the brewing industry. The new container, which holds 24 of the 12-oz. bottles of beer, is injection molded in one piece of high-density polyethylene, equipped with integral hinges and double lid. The material is opaque white, printed with bright blue lettering of brand and product names.

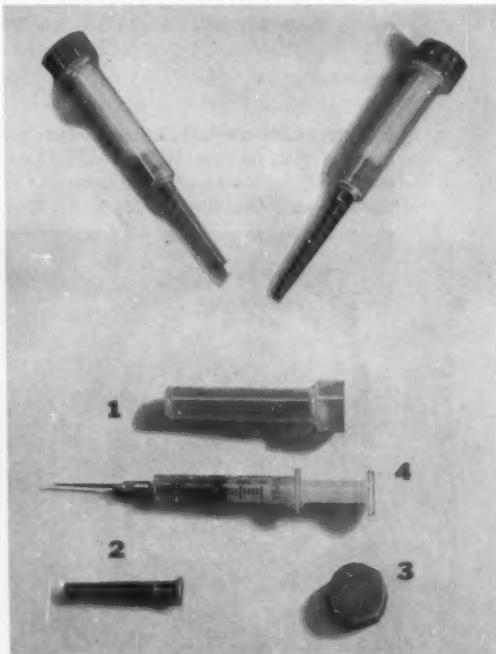
Based on multiple trips, the polyethylene case (patent applied for) reportedly gives four times as much service as the fibreboard container it replaces (background photo). After return, the polyethylene cases are washed at the brewery so that they are shipped fresh and clean to customers each time they are reloaded.

Their initial cost is greater than traditional beer cases, but the cost per trip is lower, according to the company. The polyethylene cases do not get water soaked, stained or torn in normal service; therefore, there is less frequent need for replacement. *Beer cases by Panelyte Div., St. Regis Paper Co., Cambridge, O., using "Super Dylan" polyethylene by Plastics Div., Koppers Co., Inc., Pittsburgh 19.*



Disposable plastics syringe

Special properties of polypropylene, combined with high-density polyethylene, have enabled Roehr Products Co. to develop a 2½-cc. disposable hypodermic syringe that sells at a price reportedly competitive with the cost of a single reprocessing of a glass syringe. Polypropylene was found to be desirable for certain components of this application because of transparency, uniformity, inertness to known drugs and resistance to chemicals used to sterilize syringes after assembly. The single-use, throw-away syringe, in addition to stainless-steel needle with aluminum hub, consists of (1) polypropylene protective outer sleeve, (2) high-density polyethylene needle sheath, (3) polypropylene cap heat sealed to sleeve, (4) polypropylene syringe barrel (injection molded by Roehr) and high-density polyethylene plunger equipped with inert rubber tip which is silicone coated to permit smooth operation. Needle gauges are coded by color molded into sheath and sleeve cap. Sealed sterile assembly is opened by tapping needle sheath end on hard surface to loosen the cap. *Molders, Atlantic Plastics, Stamford, Conn., and The West Co., Phoenixville, Pa. Polypropylene by Enjay and Hercules. Polyethylene by Phillips and Grace.*



Shifting trends in printing

Part 2: Flexible materials. Improvements in machinery, inks and printing surfaces are leading to greater use of fine halftone effects. Flexography is gaining ground in paper, film and foil materials

Perhaps the most significant trend in the printing of flexible packaging materials is the way in which finer halftone printing is moving insistently into this field—replacing simple and bold graphics with subtler but more sales-winning combinations of graphics and multicolor tones.

This trend, to which all packagers should be alert, has necessitated radical changes in printing methods, inks and sometimes the surface treatment or coating of flexible materials and, as in the case of carton packaging where the trend started,¹ it is shifting the emphasis in both design and economics for the broad area of packaging using flexible materials.

Examples of the new look in overwraps, labels and bags made from papers, films and foil are ap-

pearing in increasing numbers, particularly for staple consumer products where hot competition necessitates upgrading of design. But the trend is not stopping there. Industrial packagers, too, are now switching to more complex and sophisticated designs on multiwall and plastic bags, the first changes being made in products of premium price and those sold in large quantity at consumer outlets.

To achieve the striking effects, there have been shifts in the techniques employed for printing the major types of flexible materials:

- **Paper.** A continued movement from letterpress printing to rotogravure for wraps and lithography for labels, since these processes provide both speed and fine-detailed reproduction. Flexography is on the verge of important volume use in the bag field because of its economy and speed.

- **Films.** Increased use of rotogravure for volume work and highly improved flexographic printing for economy in shorter runs. Gravure and flexography often are combined to achieve more benefits.

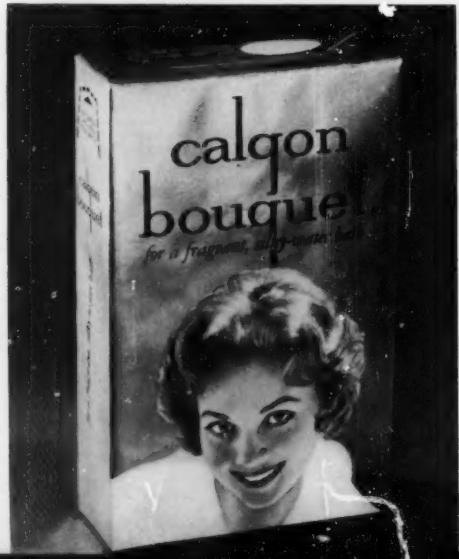
- **Foil.** Traditionally printed by gravure, there is now some trend to flexography and rotary letterpress for short runs and both gravure and lithography for detailed designs on aluminum foil.

Upgrading for paper

Though overlooked for several years because of the attention paid to more exotic materials, paper is regaining attention as a packaging material because of its justifiable reputation as the finest printing surface available to packagers. Either alone or as the outer surface of a barrier lamination, this material is re-asserting its major advantages: adaptability to fine printing techniques and to the addition of low-cost coatings. Printing processes have made corresponding improvements.

¹See "Shifting Trends in Printing," MODERN PACKAGING, Aug., 1961, p. 89.

Rotogravure on foil produces an unusual halftone effect for new Calgon Bouquet carton wrap (scuff-resistant coated foil laminated to tissue) in six colors. Wrapper, Reynolds Metals.





Flexography on film produces finer pictorial effects, as in this polyethylene bag for grass seed used by Plantspur Products Co., Brooklyn. Bag, Bemis Bro.

One of the newest trends is in multiwall bags, where several major manufacturers are now installing flexographic equipment that may produce marked changes in the hitherto simple designs of these containers (now printed primarily by letterpress). Advantages of this process are its low cost, speed and solid ink-laydown, which can lead to bold and colorful designs.

Flexographic units are already being used to apply an over-all solid color on the outer liner of bags. This is regarded as a more economical process than adding colors during manufacture of the paper. Changes in inks to speed drying and smoother surfaces for both natural and bleached krafts are needed and are under development to hasten the changes in this packaging field.

It is in the field of overwraps, however, that the most rapid improvements have taken place. Here, clay coatings and super-smooth calendered and coated papers have facilitated use of high-speed

rotogravure printing, which requires a smooth printing surface. Technical progress has been accelerated, too, by development of such mechanical improvements as better re-winds, web tension controls and electronic registration mechanisms.

Researchers have devised more efficient inks in a wide variety of metallic, high-gloss and fast-drying colors that enable rich tones and special effects. There is even a new flocked paper, printed by lithography, that provides a soft, clothlike flexible material. And experiments are going forward to adapt

Rotogravure on paper now lends itself to more subtle illustrations, formerly possible only with lithography and letterpress. Improvements permit this new seven-color design for Procter & Gamble's Charmin brand toilet-tissue wrap at right. Wrap, Specialty Papers.



fluorescent inks, now used only on folding cartons, to the area of flexible packaging materials.

The result has been such subtle and fine designs as that of four new paper wraps for a four-roll package of Charmin toilet tissue, packaged by the Charmin Paper Products Div. of Procter & Gamble. Printed by rotogravure on white and colored stocks in eight colors (which include three different shades of ink in the trade name alone), this wrapper is made from a 30-lb. latex-coated high-strength kraft paper and features a delicate reproduction of a baby, created from a Kodachrome transparency. This combination of bold and unusual graphics with soft halftone design forms a striking package for a product usually treated as routine.

Upgrading of a carton tight-wrap in both design and barrier properties has been accomplished by the Pet Milk Co. for 4- and 12-qt. packages of non-fat dry milk powder. Here, a special rotogravure-grade paper was laminated with polyethylene to foil, to provide exceptional protection for the hygroscopic food powder. The graphic and halftone design, printed in six colors and then coated with an improved glossy coating of a wax and polyethylene blend, has an impact that is usually achieved only with a much more expensive double-clay-coated stock and chrome inks. The lifelike halftones—which cover 60% of the front panel on both the 4- and 12-qt. sizes—are of a series of children, all enjoying a glass of milk to point up the intended method of consumption for the powdered product. (For an actual printed example, see the insert opposite.)

New methods for films

In wraps, bags and pouches made from such films as cellophane and polyethylene, developments are increasingly centered on finding better ways to achieve

Rotogravure on film now offers fine multicolor printing even for low-cost products. Example is new six-color cellophane pouch for Morton Foods' Chip-O's. Roll stock, Milprint.



Rotogravure on lamination (paper-polyethylene-foil) is coated with a transparent blend of polyethylene and wax to create a hard, high gloss. Panoramic halftones possible with gravure now are practical even for such staples as Pet dry milk. Insert shows face of carton wrap.

'GLAMAKOTE' INSERT COURTESY MARATHON

high-quality design for short runs. Where long runs are available, rotogravure is already used economically for both cellulosic and thermoplastic materials, where the chief trend is toward more colors.

Many film packages, however, are either used in small quantities or are subject to frequent changes in design and identification. Such packages are a natural for flexographic printing, which is both low in cost and versatile in application. This process is now being combined with gravure, too, to achieve the advantages of each process. On the press, a flexographic station is used for changeable graphic copy or for the background design of a package which may need a heavy ink laydown.

The rise of halftone flexography has been both recent and dramatic. Only two years ago, this process was capable of nothing more than line work. Now, true halftone designs are printed flexographically with much improved quality on a wide variety of food and non-food film packages. And while quality is not yet equal to that of gravure or letterpress, flexography is being used more and more in packages where ultra-high quality is not important or where costs militate against the use of the more expensive printing techniques.

Examples are numerous, but a recent case in point is a new series of 5-lb. bags of 3-mil low-density polyethylene for grass seed, packaged by Plantspur Products Co., Brooklyn, subsidiary of

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One of the newest rotogravure presses has eight stations and prints roll-stock flexible packaging materials in that many colors at high speeds.

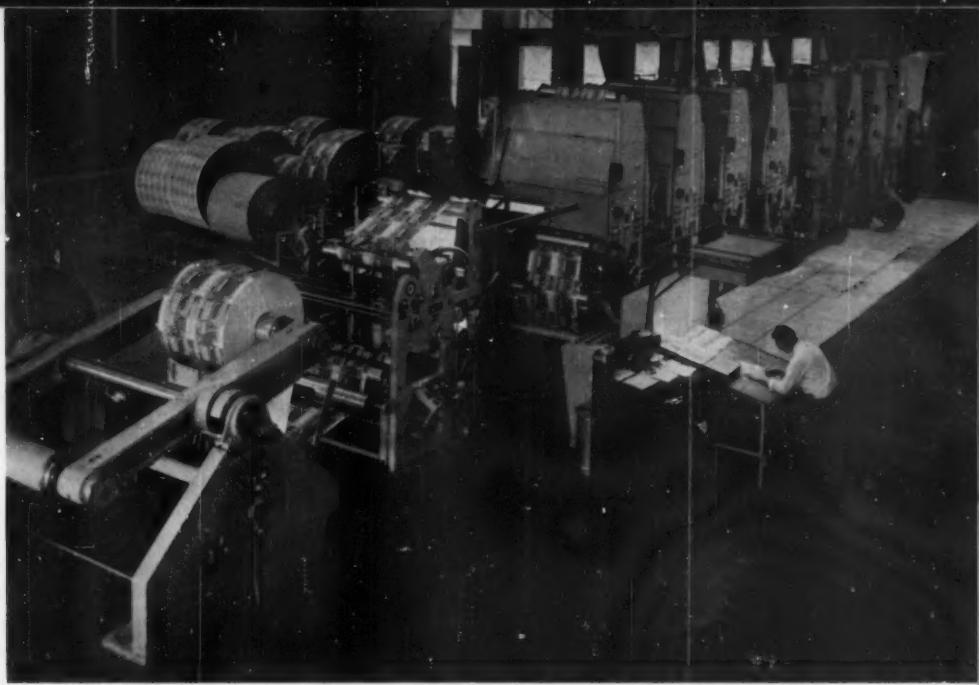


PHOTO COURTESY CHAMPLAIN

Garfield-Williamson, Inc., Jersey City. Printed in four colors with a 65-line screen, a flexible container portrays a well-trimmed garden scene in halftone. It is a marked advance for such packages and one that could not possibly have been made, according to the supplier, without the economics of flexographic printing. Experimental packages have been printed with screen detail as fine as 100 line.

Halftone designs also have been employed on polyethylene bags for various food products, such as those for Heidi frozen bake-and-serve biscuits, packaged by Giant Food, Inc., Silver Spring, Md. Here, a halftone representation of the finished product covered with butter, as well as the trademark and cooking instructions, are printed in four-color flexography on 2½-mil low-density polyethylene film.

Flexography is now extensively used for cellophane envelopes for hosiery, where it is in some

cases being combined with rotogravure. A recent example is a large-volume stock envelope that is printed basically by gravure. Recently used for Wink stockings, this envelope has the trade name printed flexographically, since the plate can be economically and quickly made and then changed for other brands in the company's line.

Flexographic printing is used on other hosiery envelopes for price and size data, which vary over short runs and, of course, there are now an increasing number of film packages printed solely by the flexographic process, which has now been very greatly improved in both sharpness and detail.

Trends in foil printing

Laminations using aluminum foil as the outer layer have always relied heavily on the sparkle of this metal to give merchandising punch to the sur-



Benefit of dual process combining flexography and rotogravure is illustrated here. Process permits long-run printing of background pattern (gravure) and short-run changes (flexography) to vary the design elements. Envelopes, U. S. Envelope.



Halftone effects by lithography are a contribution to low-cost flexible packaging of foods, providing sharp line work and pictorial of Heidi biscuit. Polyethylene bag, Paramount.



Lithography on foil can now be used for short-run packaging requiring fine detail. Armour can label offering special deal is printed by offset for economy. Foil, Reynolds Metals.

face design. But now this material is caught up in the general trend to halftone representations. Fortunately, however, the rotogravure process (used for 90% of the printing of foil packaging materials) is ideal for this latest trend in design.

To facilitate delicate printing on the metal surface, steady improvements have been made in surface treatments, inks and machine speeds so that it is now possible to get extremely subtle halftone designs at press speeds that average 600 ft. per min-

ute and are capable of achieving a range of speed as high as 1,000 ft. per minute.

A new example of beautiful foil printing is the pink-colored foil wrapper for Calgon Bouquet, packaged by the Calgon Co., Div. of Hagan Chemicals & Controls, Inc., Pittsburgh. It features a girl's silhouette in a five-color halftone which is so soft and subtle in tone that it almost appears to be monochromatic. Colors are pink, yellow, red, black and white. The wrapper consists of a scuff-resistant coating over 0.00035 aluminum foil laminated to 15-lb. tissue, wax mounted to 8-lb. strike-through tissue. The high volume and quality needed in this laminated foil-and-paper wrapper necessitate the use of the more modern rotogravure process.

However, the cost of gravure rolls makes this printing technique practical as a rule only where package orders run to more than 55-million square inches. Thus, there is a growing demand for flexographic, letterpress and lithographic methods for foil packages of lesser volume—though to date these printing techniques have been used far more for non-packaging applications.

Flexography on foil has been restricted, so far, to simple designs—straightforward graphics such as those used on a new three-color foil pouch for potato chips packaged by Maple Leaf Potato Chips, Inc., Montreal, where the dominant design element is a simple silhouette of a leaf. The advantages of this method of printing are low preparatory costs and fast (600 ft. per minute) roll-to-roll operation.

But the tremendous progress in flexographic printing of films may enable this process to be broadened into more complex designs on foil in the future. At present, though, where complex designs are applied to small-run foil packages, rotary letterpress and lithography are becoming favored because of their quality. Both have low preparatory costs.

An example of how lithography is used most efficiently is a special deal label for Armour's canned beef stew. Normally printed by rotogravure, this label was modified for a short time recently with a 10-cent-off panel. Rather than re-make expensive gravure rolls, the label was printed economically by lithography, which also maintained the quality of a halftone reproduction of the product.

Lithography on foil² is also gaining use for such other short-run special packages as liquor gift wraps, where fine detail is highly important.

However, this process has one strong drawback at present. Flexible materials usually must be printed on cut sheets, thus running up production costs. Rotary lithographic presses, which do not operate roll to roll, have a cylinder of fixed size that reduces operating flexibility of [Continued on page 233]

²See "Lithography on Foil," MODERN PACKAGING, July, 1960, p. 162.

CORRUGATED WITH FOIL

As an inner liner, aluminum foil provides a moisture barrier sufficient to keep pretzels fresh and the low-cost bulk package in cubical shape means savings to both Quinlan and its customers

Modern barrier materials apparently are opening to the corrugated shipper new vistas in bulk food packaging by adding the dimension of long-term moisture protection to this workhorse container's inherent advantages of low cost and durability under normal handling conditions.

Last year, a packager of potato chips built up a 500% bulk-quantity sales increase when it switched from a returnable metal can to a disposable polyethylene-bag-in-corrugated carton.* And now the Quinlan Pretzel Co., Reading, Pa., has scored a triumph in cost cutting and handling with the adoption of a foil-lined corrugated container for 2½-lb. quantities of pretzels, sold chiefly to restaurants and other institutional outlets. Again, the throw-away package replaces a multi-trip can.

Quinlan (one of the biggest firms in its field) says that the all-over interior foil lining—while not so effective a moisture barrier as the metal can—is more than adequate to keep the pretzels fresh and crisp until the contents are consumed. The foil is laminated to the corrugated board prior to fabrication of the container. Center-tuck top flaps permit secure reclosure of the carton after first opening.

Corrugated's natural cushioning properties also are said to provide superior protection against product breakage during shipping and handling.

In the all-important matter of packaging economies, Quinlan's new institutional container is reported to cost less than one-third as much as the metal can it replaces. Shipped to the plant knocked down, it also affords substantial freight and space savings. When filled, the square-shaped carton occupies one-third less shipping and storage space than does the cylindrical can, indicating additional cost savings to the packager as well as upgraded customer-company convenience.

The disposability of the foil-lined carton has eliminated a number of costly handling procedures, according to Quinlan. The former metal can (which had an average useful life of five trips) required a 50-cent deposit. Empties had to be collected by the

packager and shipped back to the plant for tedious and costly cleaning and relabeling before re-use.

The success of this institutional container has led Quinlan to investigate the possibility of using a similar foil-lined bulk-quantity carton as a supermarket item. The company points out that some of its beverage-distributor customers are achieving impressive tie-in sales by marketing the 2½-lb. package as a direct-to-consumer product.

SUPPLIES AND SERVICES: Foil-lined corrugated carton by Stone Container Corp., 4200 W. 42 Pl., Chicago 32, using Alcoa aluminum foil.

Interior lining of aluminum foil assures long shelf life for Quinlan's pretzels in institutional 2½-lb. carton. Center-tuck top flaps permit secure reclosure of container after first opening.



*See "Throw-Away in Bulk," MODERN PACKAGING, Oct., 1960, p. 130.

JOHNSON'S holiday

THIS MONTH'S COVER



The car-top setting for the use of the colorful plastic package is photographically captured for MODERN PACKAGING's cover by Hal Reiff.

Four months after its introduction into most markets, this wash-and-shine automobile cream in a high-density polyethylene bottle was outselling all other car-care products, including Johnson's own established brands. The packaging key to its continuing sales success is the convenience of the unbreakable, captive-capped squeeze container that neither spills nor mars the finish of a user's car.

In the packaging excitement generated by the switch of many established products from their original containers to high-density polyethylene bottles, it is easy to overlook the remarkable success of new products introduced in this material—products tailor made in the laboratory to suit this plastic's chemical composition and to take advantage of its properties.

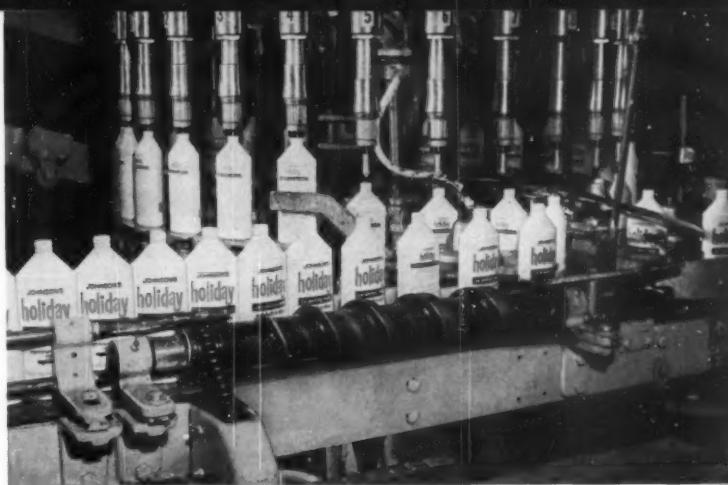
Such a product is Holiday, the wash-and-shine automobile cream introduced nationally in the spring of 1960 by S. C. Johnson & Son, Inc., Racine. From the start of its commercial development, Holiday was destined for polyethylene packaging. And Johnson has had no cause to regret its decision. This convenient, first-of-its-kind product packaged in an attractive, easy-to-use, captive-capped bottle—which, if dropped, neither spills nor scratches the car—was blessed with sales appeal. By the end of last summer—only three to four months after its introduction into most markets—Holiday was outselling all other competitive car-care products.

As with all products spotlighted in this current MODERN PACKAGING series of *Success Stories*, no one factor can be credited for Holiday's fine record. Johnson doubts if its product would have done as well in another type of container, but the company is too busy filling orders to worry about that.

Holiday started as a new-product concept, combining washing, deep cleaning and polishing. When the yet-unnamed product emerged from the research laboratory in late 1958, its "sponsor group" (representing research, marketing and production) considered the package early in its deliberations. Johnson's other automotive products were in metal cans. A few minor brands of car wash were in polyethylene at the time, but the packaging material had not penetrated deeply into the car-care field. Although its use for Holiday would require revisions of production facilities, the conveniences of a polyethylene bottle seemed so appropriate to the easy-care attributes of the new product that no other type of container was given serious consideration, according to the packager.

It was apparent during the final stages of product formulation that the product could be contained in the newer, more-resistant high-density polyethylene without special coatings. The older low-density "squeeze" bottle probably would not have been suitable.

Rotary filler and other former can-line equipment were slightly modified to handle new plastic container. On filler, the spring chuck and gripper pressures were lessened to accommodate polyethylene's resiliency.



By June, 1959, the sponsor group's successful proposal to management mentioned only a high-density polyethylene squeeze bottle with no specific design recommendation. The original sponsor group was then augmented by representatives from company departments having packaging responsibilities: Package Design, Package Engineering, Industrial Engineering, Purchasing, International and Public Relations.

For use tests in Milwaukee and Miami, a plain white bottle with terraced shoulders was selected along with a captive cap from another supplier. Simultaneously, a mail sampling survey was conducted among 700 families in three different geographical areas. The company then analyzed the results of the mail survey.

Both product and package got enthusiastic user responses. A typical comment: "We never wasted a drop with the squeeze bottle—it squirts out just the right amount." The stiffer high-density polyethylene provides just the right amount of "squeeze" for this product, although it is not a squeeze bottle in the original sense of dispensing the product in a spray pattern.

The designer was asked to use a white bottle to connote cleanliness and to design a label which communicated the new-product concept quickly and simply. The lively, multicolor surface design is applied to the container by a heat-transfer process.

The final package design incorporated the same bottle (with walls increased to 8 mils) which Johnson had used for testing. The same captive cap, molded of low-density polyethylene, was adopted in a rich peacock blue matching the bottle decoration.

Meanwhile, Johnson's production people modified an existing can-filling line which now turns out 110 pint-size bottles of Holiday per minute—not so fast as the can line, but a respectable speed for a polyethylene bottle with a rather viscous product.

The "car-washing cream with built-in shine" theme so important on the package appeared in initial trade advertising in January, 1960, with newspaper promotion starting in Miami and moving northward market by market with the sun. On TV, product demonstration has been the keynote in all commercials. The polyethylene bottle is prominently displayed and its squeeze dispensing, unbreakability and spill resistance emphasized. Promotion of all product and package attributes for Holiday has been combined by Johnson under one big sales umbrella: user convenience.

By early fall Holiday sales had passed those of even its sister brands—Johnson's long-time favorite Carnu and J-Wax. The promotion pattern was repeated this year and the company reports that the new product's sales are continuing good this year.

SUPPLIES AND SERVICES: Design by Robert Sidney Dickens, Inc., 908 N. Ernst Ct., Chicago 11. High-density-polyethylene bottles blow molded by Plax, P. O. Box 1019, Hartford, Conn., and decorated by Dennison Mfg.'s "Therimage" heat-transfer process. Low-density-polyethylene captive caps by Heekin Can's Pittsburgh Plastics Div., New Castle, Pa.



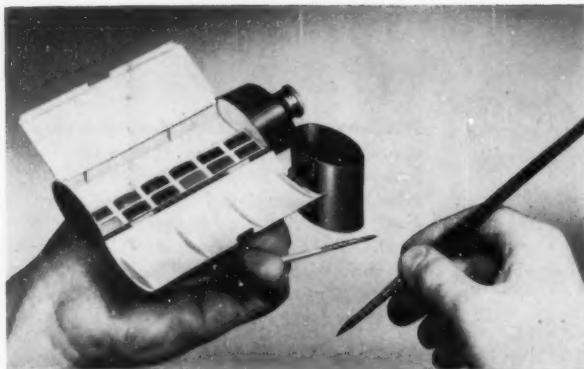
Dual-hole captive cap (above) is molded of low-density polyethylene. Hole in the foreground emits product; the second hole takes in air. Instructional copy on back of bottle (below) is printed in four colors, emphasizing that Holiday is only for well-kept car finishes and suggesting Johnson's J-Wax to clean neglected surfaces. Directions tell how to open cap and squeeze out cream.



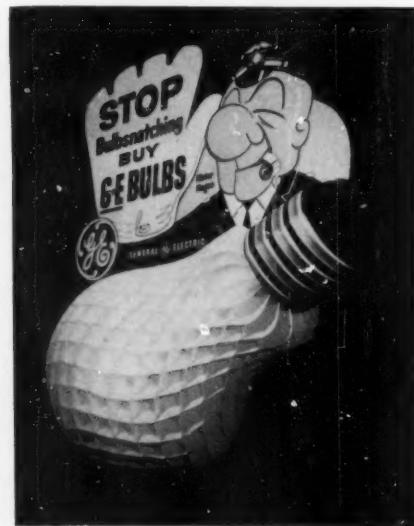


1

PACKAGING PAGEANT



2



3

1 New handling of full-color photographic reproduction that sharpens identity and enhances the third dimensional effect is noted on a new package for Stouffer's Plantation Cake. The colorful illustration is contoured in the same shape as the familiar Stouffer trademark symbol of a casserole dish. Distinctive red background is retained as an effective device for blocking off the area for Stouffer packages in frozen-food cabinets. Designer, Harley Earl Associates, Detroit. Carton, Container Corp. of America, Chicago.

2 A prize winner in the recent National Art Materials Trade Assn. competition brings to light an inspiring concept in convenience packaging. Called Miniature Water-Bottle Box, it is a self-contained water-color set for the traveling artist, made in England for Winsor & Newton, Inc., New York. The enameled metal box, measuring 1 by 2 by 5½ in., contains 12 artists' water colors, sable brush in quill and a compartment for carrying water. The cap serves as a water cup when clipped to the opened palette lid. When closed, the compact unit fits conveniently in pocket or handbag.

3 The long-overlooked potential of honeycombed tissue as a display material appears to be coming into its own. Among the impressive examples is the use of this material to simulate giant lamp bulbs in a series of in-store and window units General Electric is distributing for fall promotions. In this hanging display the three-dimensional tissue bulb is an attention-getter combined with the TV character Mister Magoo, as a traffic cop. In other units it is used with portrayals of Mister Magoo selling in humorous football situations, promoting Soft-White bulbs and popular four-bulb packs.

4 A combination of two thin-gauge base sheets of cellophane and a polymer resin inner ply is providing a sturdy, transparent film mailer for 35-mm. photographic travel color slides sold by Meston's Travels, Inc., El Paso, Tex. Four slides are automatically sealed in the film with an identifying header, which has space for mailing address and stamp on reverse side. The cellophane protects the slides from fingerprints and other damage. Transparency gives shopper a convenient and quick way to make selections. Test mailings around the world have come through without a single broken seal or damaged slides, despite extremes of temperature and rough handling, the company says. Light weight is suitable for first-class and air-mail postal rates. Meston cites a 600% sales increase with the new package. Avisco T-69 film, American Viscose Corp., Philadelphia.

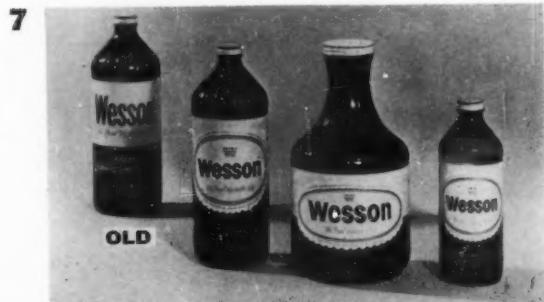
5 Extruded one-piece aluminum aerosol containers in a new squat shape have been adopted by Schering Corp. for four new dermatological products of 1½-oz. size. White base coat provides a clean, clini-

cal look for drug products and the new shape stands up without tipping more readily than more slender container forms. Schering, reportedly the first to produce topical steroid products in aerosol form, does its own filling. Containers, Peerless Tube Co., Bloomfield, N. J. Valves, Precision Valve Corp., Yonkers 3, N. Y.

6 Thom McAn is marketing its Bootmaker's men's shoes individually packaged in polyethylene bags. Shoes are placed in the bags at factory before they are placed in boxes. The low-cost bags, the company says, afford excellent protection of the shoes in storage, both on store shelf and in the home. They offer an extra advantage for the traveler, who may keep his shoes in the bags, thereby preventing soiling of other clothes while maintaining the polish of the shoes. Polyethylene bags, Austin Industries, Inc., Marlboro, Mass., using 1.35-mil film produced from Bakelite polyethylene resin.

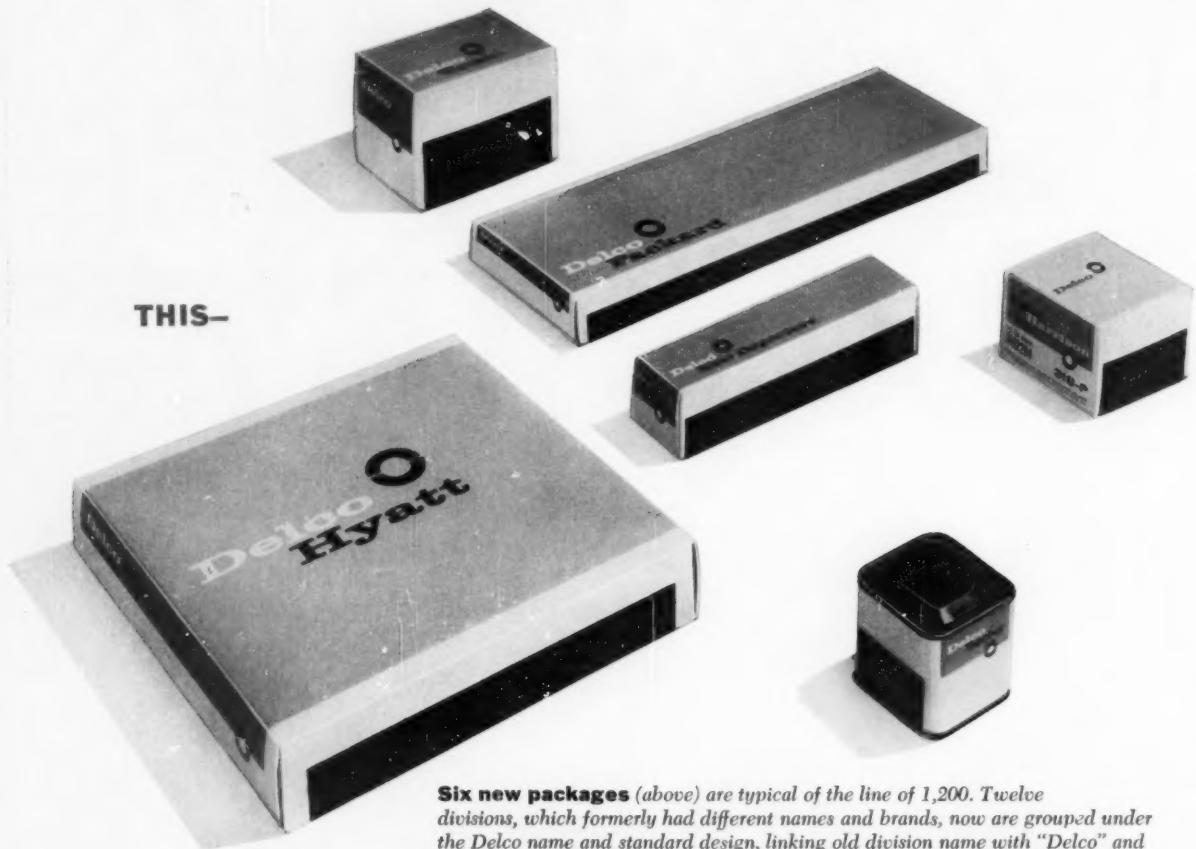
7 Crisp new labels for Wesson Oil are another example of design refinements needed to upgrade staple grocery lines. The new design, adopted by Wesson Oil Div. of Hunt Foods & Industries, is aimed to suggest the high quality of the product with greater restraint and more feminine appeal. The colors are clear yellow and green on white to emphasize freshness and lightness of the product. Modern logotype is enclosed in a golden oval below which is a scalloped border associating the design with kitchen decor. Designer, Frank Gianninot & Associates, Inc., New York. Labels, U.S. Printing & Lithograph Div., Diamond National, New York.

8 The dual role a package may often perform is suggested by a paperboard, four-reel dispenser for holiday gift-tying ribbons marketed by Cleo Corp., Memphis, Tenn. The handle box of folding construction encourages the multiple purchase of four 60-ft. rolls of four different-colored acetate-and-viscose ribbons at a popular price. In the home it provides a convenient way to store and dispense desired lengths. The vertical arrangement of the rolls in the package is designed to conserve valuable shelf space in retail outlets. Paperboard dispenser, Bruce Carton Co., Memphis 8, Tenn.



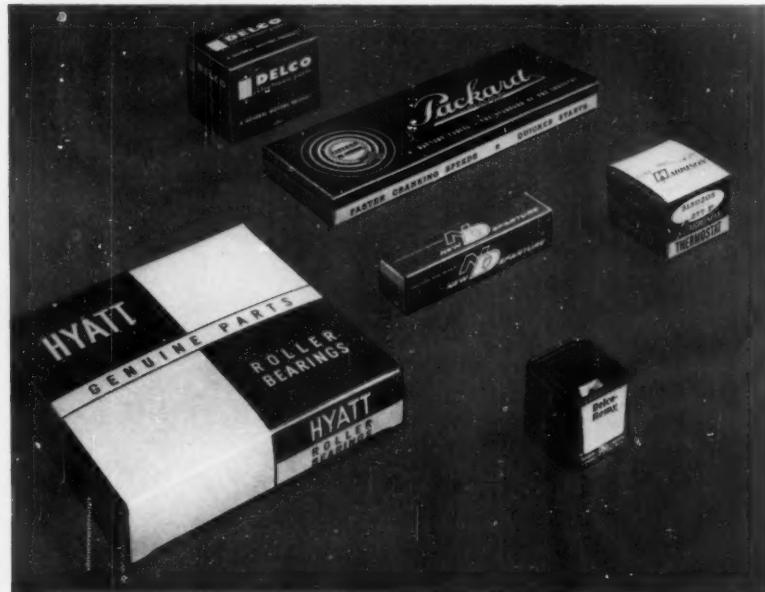
FOR GM: 1,200 DESIGNS

THIS—



Six new packages (above) are typical of the line of 1,200. Twelve divisions, which formerly had different names and brands, now are grouped under the Delco name and standard design, linking old division name with "Delco" and new symbol. Old designs (below) had little similarity and no uniformity.

FROM THIS



ON A SINGLE STANDARD

Every container in 12 of this great corporation's parts-making divisions gets a face lifting with a clean, uniform look based on simple specifications in a 17-page Delco packaging manual

General Motors, the world's biggest manufacturer, is completing what is probably the largest simultaneous package-redesign job in history. Yet a new packaging manual takes only 17 pages to tell 12 parts-manufacturing divisions and their 65 packaging suppliers how to redesign a total of some 1,200 GM containers for 30,000 different parts in line with a new company-wide style.

Until this month, these dozen divisions marketed hundreds of repair and replacement parts lines under a variety of brand names. Moreover, a lack of design control in recent years permitted the surface designs of these hundreds of packages to grow into a bewildering complex with little apparent family similarity or relationship.

Now, for the first time under one recognizable brand name—Delco—the corporation has organized its parts packaging so smartly and simply that all divisions and suppliers can know exactly what is expected in uniform surface design by referring to brief and precise specifications and sketches in the new loose-leaf manual. Such an achievement in compact regulation of package design suggests that company size—large, medium or small—is little excuse for a packaging hodgepodge.

The new design is being initially brought to consumer attention this month through television, magazine and outdoor advertising. Requiring simultaneous design changes for almost every package, the two-year project has been the joint responsibility of United Motors Service and the corporation's renowned Styling Staff, whose design assignments range from Cadillacs to stationery.

Facing members of the Styling Staff was the task of unifying through surface design the tremendous range of package types and sizes used by the 12 divisions. The majority of GM parts are packed in cartons. But, hundreds of tinplate and fibre cans, steel drums, tubes, pouches, corrugated boxes and other types of containers are also employed.

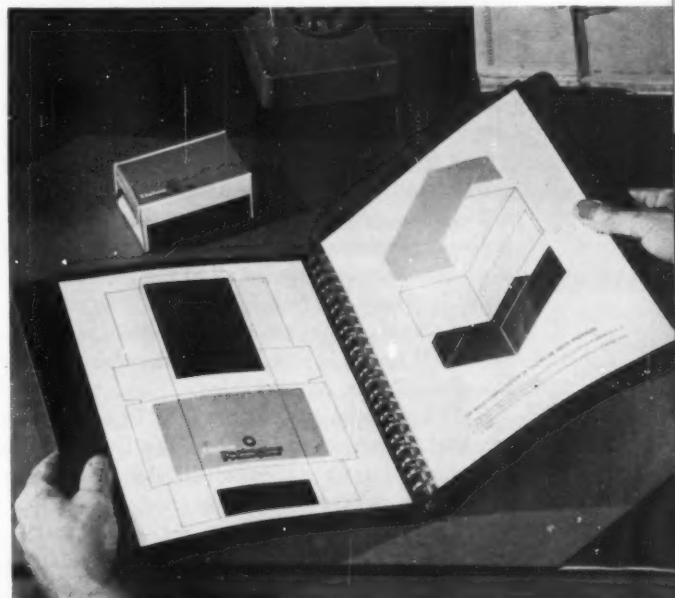
So the designers could not aim solely at carton effectiveness. The final design had to be adaptable and effective for all types. The result of these efforts

is a basic design giving an effect of extreme simplicity, but putting every graphic element on the package to work for a specific aim and purpose.

The over-all package-design strategy can be summed up in just five points:

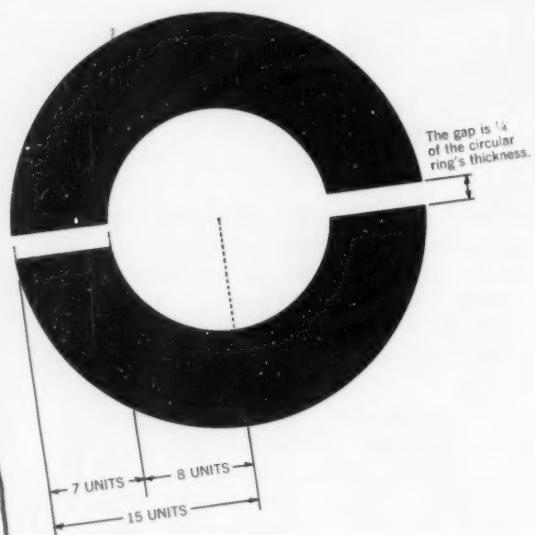
1. The well-known brand name "Delco"—already incorporated in the divisional names of five parts divisions—has been extended to the others as a merchandising "umbrella." The name is used as a prefix to the existing name on all packaging, signs and other graphics. Hence Delco Remy, Delco Moraine, Delco Products, Delco Appliance and Delco Radio have been joined by Delco Rochester,

It's all in the book. Packaging manual sets forth in only 17 pages all specifications for surface design of 1,200 containers used by 12 General Motors divisions that make and sell repair and replacement parts under Delco brand names. Right-hand page shows basic arrangement of carton-color bands used in new styling.



Pages from the book show

CONSTRUCTION OF THE DELCO SYMBOL



Divide the radius of a circle into 15 equal units. The radius of the inside circle is eight units.

The symbol will be printed black on all Delco packages.

New symbol has specific proportions, as explained. Symbol size varies according to use.

Delco Packard, Delco Harrison, Delco Hyatt, Delco New Departure and Delco Guide, United Motors Service itself is merchandising all products under the name of United Delco.

2. A distinctive logotype has been developed for use by all divisions. They keep their own names—except for the Delco prefix or suffix—but type face used for all divisional signatures is now identical.

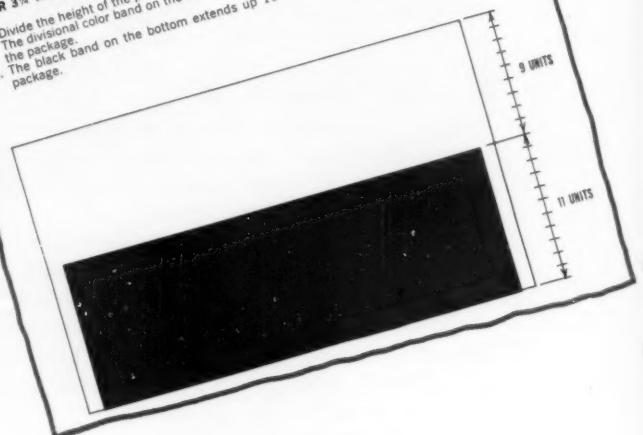
3. A new Delco symbol, a two-part circle symbolizing precision parts, is coordinated with the distinctive new logotype on all of the packages. The result is simple but forceful.

4. Packaging is color coded by divisions. Each of the GM divisions now has its own color and uses it exclusively on all packaging.

5. The program is strict yet flexible, to assure a practical uniformity guided by rules based on the mathematical interrelation of all design elements on any one package. Logotype treatment, symbol, color coding and basic package design are used by all divisions for all parts packaging according to exact specifications laid down in the manual, "Delco

TO DETERMINE THE HEIGHT OF THE DIVISIONAL COLOR ON THE ENDS, AND BLACK ON THE SIDES OF STANDARD DELCO PACKAGES OVER 3 1/4 INCHES IN HEIGHT.

1. Divide the height of the package into 20 equal units.
2. The divisional color band on the top extends down 11 units on the ends of the package.
3. The black band on the bottom extends up 11 units on the sides of the package.



Color directions on this page tell how to compute height of color bands on cartons.

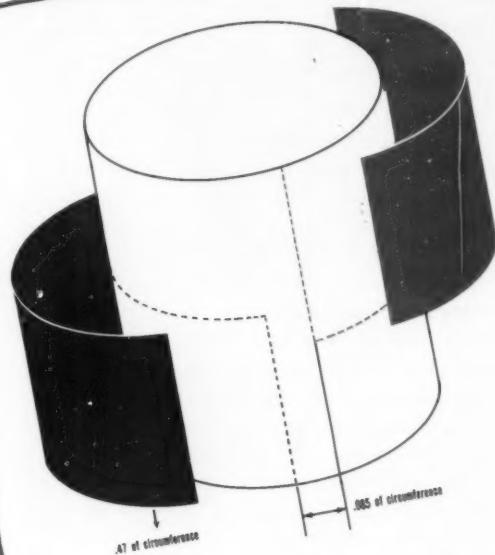
Packaging Principles," prepared by the Styling Staff.

With brief directions and simple black-and-red line drawings, successive pages of the manual spell out basic rules for each element separately and together with all others. But by wisely allowing in advance for inevitable exceptions, GM has avoided both the inflexibility and the stifling caution possible in huge organizations. The shelf image projected by the combined packages is deemed more important than strict adherence to rules in every instance. Thus GM can run its packaging program rather than allowing the program to run it.

This is the largest packaging change in GM history. Yet cost, reportedly, has been moderate. Except for the non-recurring costs inherent in any crash program and the fact that all printing plates have had to be replaced at one time rather than on a staggered basis, the new packaging is said to cost no more than the old. Some divisions, in fact, are spending less than before.

One of the most remarkable aspects of the huge program is the speed with which it was implemented.

simplicity of GM's new design standards



TO DETERMINE THE COLOR PANEL LAYOUT ON ROUND CONTAINERS.

1. The width of the divisional color panel on the front is .36 of the circumference of the container. The width of the black panel on the back is .47 of the circumference. The white borders separating the color and black panels on either side of the can are each .085 of the container's circumference.
2. The heights of the divisional color panel and the black panel are determined in the same way as on standard packages.

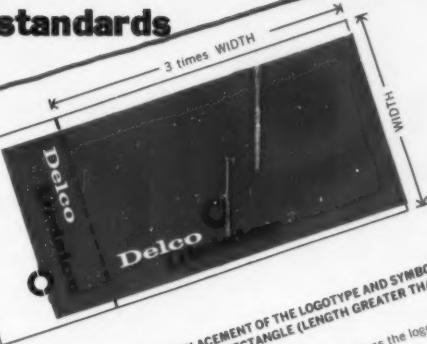
Round-container color-panel layout directions also are explained in full detail.

Only last October the basic plan was approved by divisional general managers; by July of this year the change-over was 90% complete and promotion to the automotive trade had begun.

Considering GM's policy of divisional autonomy in purchasing as in everything else, this is an outstanding achievement. In those nine months, (1) all 1,200 package designs were made final, (2) the divisions independently placed their orders for new packaging with a total of 65 suppliers and (3) the new packages were delivered, filled and shipped to distributor warehouses and thence to the various parts dealers located throughout the country.

A small percentage of slow-moving items in their former packages will take some months to clear. But as the consumer advertising campaign breaks this month, parts buyers seeing the new packages on dealers' shelves will at least recognize familiar brand names in new, crisp packaging. Perhaps, too, they'll get from the restyled packages an overwhelming impression of corporate unity.

That GM parts needed such corporate repackag-



TO DETERMINE THE SIZE AND PLACEMENT OF THE LOGOTYPE AND SYMBOL ON PACKAGES WHERE THE TOP IS A RECTANGLE (LENGTH GREATER THAN WIDTH).

1. For packages where the top is in a proportion of 3 to 1 or less the logotype will be staggered as shown on pages 3 and 4.
2. For packages where the top is in a proportion of over 3 to 1 the logotype will be in one line.
3. The logotype on the top of the package is placed reading from left to right from the edge on the number end. The 'Delco' is indented reading from left to right from the 'D' above the lower edge of the color area. The logotype rests on a line the height of the logotype, whether staggered or in line.
4. For Delco Guide, Delco Hyatt, Delco Remy on the top of the package.
5. For Delco Appliance, Delco Harrison, Delco Moraine, Delco Packard, Delco Products, Delco New, Delco Rochester, Delco New Departure and Detroit Transmission, the overall height of the logotype, whether staggered or in line, will be 1/6 of the width of the package.
6. For Delco, New Departure and Detroit Transmission, the overall height of the logotype, whether staggered or in line, will be 1/10 the width of the package.
7. The symbol on the part number end of the package will be located in the center line of the 'D' of 'Delco' on the top of the package and the symbol on the opposite end is then located in the same position relative to the symbol on the color band.

TO DETERMINE THE SIZE OF THE SYMBOL AND THE PLACEMENT OF THE SYMBOL WITH A STAGGERED LOGOTYPE.

1. The height of the symbol is equal to the overall height of the staggered logotype.
2. The distance between the left edge of the symbol and the right edge of the last letter in "Delco" is equal to the thickness of the arc in the two parts of the circle. The bottom of the symbol is lined up with the bottom of the cross stroke of the "e" in DELCO. See the illustration on page 4.

Logotype size and placement are spelled out for rectangular surfaces in the GM manual.

ing was first underscored in a speech to GM personnel by Roger M. Kyes, corporate vice president in charge of the Accessory Divisions, in September, 1959, shortly after his appointment. Mr. Kyes (former Deputy Secretary of Defense) emphasized that good product and fair price are no longer enough—that effective presentation has become equally important to successful marketing. And packaging, he pointed out, is the prime requisite of presentation. Mr. Kyes went on to say that, while many GM parts packages taken individually compared well with competitors', in mass display they became an incompatible collection of items with no common identity and no color coordination.

The criticism could not be denied. For even the five divisions with "Delco" as part of their names, each Delco logotype was different. United Motors Service's famed logotype resembling a license plate had been widely promoted for years, but was never applied to divisional packaging. Five of the divisions used a blue-and-yellow color scheme for packaging—enough alike to be confusing, not enough alike

to be a corporate family. There were numerous other examples of such design efficiency.

Mr. Kyes instituted a thorough study of parts packaging. In February, 1960, a special Packaging Committee headed by William Walker, Jr., now general manager of United Delco, was established to guide the redesign program. Although small in size, the committee included executives familiar with design, production, advertising and merchandising.

The next month the Styling Staff was given the preliminary design assignment. At the same time the Packaging Committee contracted with two packaging suppliers having respected design departments to work out their own conceptions of a suitable program. Their important ideas were incorporated into final plans, but the Styling Staff's basic program was adopted by the corporation.

Research points the way

By June the project was far enough advanced to warrant a preliminary meeting with all division general managers. There were, of course, some disadvantages. One division had just completed a large-scale package redesign which would have to be scrapped; several other divisions argued that their own present packaging was satisfactory. But the managers agreed that the need for an integrated package-design program for GM was acute.

All types of containers, including collapsible tubes and metal-end square fibre cans, are given the same design treatment—as far as their proportions will allow.



The first requirement was a brand name and selling symbol for all divisions. The Packaging Committee suspected the best possible name was Delco. Two independent research organizations were hired to find out. During the summer of 1960 the first research group interviewed some 2,000 people in 10 different cities in which General Motors operates no product-manufacturing facilities.

A second research group conducted 1,000 additional interviews in the same cities to ascertain the "top names" in specific parts categories. As a result, it was evident that of all the GM parts brand names, Delco was by far the most widely known and best accepted by customers.

Although most of the brand names thus became quite long, Styling Staff designers chose to emphasize rather than subordinate this factor. They picked a bold, clearly legible and extended photo type face—Continental Clarendon #7 Extended—for all divisional logotypes. From many possible candidates, the "circle of precision" symbol was selected for its strong appearance, remembrance value, adaptability and appropriateness to the products.

Design principles

While the Styling Staff weighed and rejected many ideas, one unchanged from the very beginning of the program was the concept of differing treatment for all six surfaces of a rectangular carton.

This is just the reverse of the "wrap-around" approach widely used for supermarket packaging, where the designer attempts to make the package similar from all angles. GM knows that parts dealers stock their shelves more carefully, with each package's proper face forward. So for all packages having six flat planes, GM applies these rules:

One end panel carries that part number and is considered the front face. The other end panel carries the line, "A Product of General Motors," in a medium-condensed type chosen for legibility and attractive contrast with the logotype. The top surface provides the main visual impact with a large-size divisional logotype and the Delco symbol. The two side panels are reserved for institutional copy when needed, while the bottom surface carries any necessary product instructions. All these rules are carefully spelled out in exacting detail on the pages of the corporation's packaging manual.

Color proportions are also rigidly defined. A band of the divisional color covers the entire top surface of the package, except for a narrow edging of white along both long dimensions, and continues a little more than halfway into both end panels. The large logotype and symbol in black and white appear on the top color panel and are duplicated in smaller size on the colored [Continued on page 223]



No can opener is needed to open convenient new straight-sided metal container made by multiple-draw technique. Two cans are sold in a folding carton.

Campbell's Soup in aluminum

New product using freeze drying is in drawn aluminum can with tear-off lid; it marks a multi-million-dollar move by a major producer

A significant event for packaging is Campbell Soup Co.'s announcement of a line of seven new dry soup mixes in easy-opening, hermetically sealed, all-aluminum cans.

• The two-piece drawn aluminum can with crimped-on lid and pull-tab opening device provides another impressive answer to the long-standing request of housewives for an easy-to-open rigid metal package for food products.¹

• The preparation of the dry soup-mix ingredients involves several of the newest processes in food preservation, including the much-discussed freeze-drying method.²

The dry soup mixes, called Campbell's "Red Kettle," will be "competitively priced," the company says, packed two cans to the carton. Graphic design bears a resemblance to familiar Campbell labels.

The new soup mixes are being produced and

packaged in Camden, N.J., in what is reported as a new multi-million-dollar installation involving special drying processes, including freeze drying, and "utilizing unique and new packaging facilities, all in carefully controlled dehumidified plant areas."

Says W. B. Murphy, Campbell president:

"We have believed for some time that there would be strong consumer demand for a quality line of dry soup mixes . . . but one problem was to devise a method of packaging that would meet our requirements. This problem has been solved."

The aluminum can with pull tab, he pointed out, meets Campbell's standards both for maintaining product quality and for physical ruggedness. Large-scale tests make Campbell optimistic that convenience and construction of the package will have wide appeal to the housewife.

SUPPLIES AND SERVICES: Cans by The Central States Can Corp., Massillon, Ohio, using Kaiser and Reynolds aluminum.

¹See "Tear-Open Aluminum Can" MODERN PACKAGING, May, 1961, p. 94.

²See "Dehydration Comes Back," MODERN PACKAGING, July, 1961, p. 89.

The interplay of plastics and packaging



A complex of technology and art, packaging has gained from the versatility of plastics. The adaptation of Tenite plastics to packaging functions holds promise for improvements in other product fields.

The egg and the coconut, cited in offhand discussions as being ideally packaged for their environments, seem ill-fitted to the complicated methods of modern distribution. The eggshell, unfortunately, can do little more than hold the egg together in the nest. And the coconut, for all its ability to float across the sea to a friendly beach, might be improved by a tear-tape.

A package today must perform several functions beyond mere containment—one reason why plastics have become so popular with package designers. Man-made, plastics can also be man-tailored. For example, Eastman's laboratory has developed twenty-six formulations of Tenite Polyethylene for extrusion into packaging film alone, combining such variables as stiffness, gloss, transparency, and the ability to be heat-sealed on high-speed machines.

Protecting the packaged contents is an obvious essential, and plastics perform some remarkable protective functions. A hypodermic needle in a molded polyethylene container stays both sterile and sharp in its heat-sealed package, which also holds the needle firmly to protect against impact damage **1**. Since polyethylene is impervious to moisture vapor, a polyethylene coating on paper will protect frozen foods from "freezer burn" caused by loss of moisture. Some products even need protection from their packages. For example, the multi-wall paper bags Eastman uses for shipping polyethylene have an inner coating of Tenite Polyethylene to prevent contamination of the product by paper fibers **2**.

Packaging for movement and storage is a step beyond protection, and here the light weight of plastics is important. Polyethylene, for years the lightest solid plastic (it floats on water), has yielded in this respect to polypropylene. Drums for chemicals are molded of Tenite Polyethylene not only because it is highly inert and withstands impact, but because the light weight



means shipping economy **3**. Special formulations of both Tenite Polyethylene and Tenite Polypropylene resist stress-cracking, a phenomenon occurring when a material is under stress in the presence of a chemical that normally does not affect it. Tenite Polypropylene shows remarkable resistance to repeated flexing. Because laboratory test bars have been flexed over a million times without cracking, it is said to have a "built-in hinge."

Even the preparation of food servings has come within the purview of plastic packaging. The heat resistance of Tenite Polypropylene suggests its use as film for the boilable cook-in pouch. Another Eastman plastic, Tenite Polyester, is made into a film bag in which corn, oil, and salt are sealed, to be popped later under three minutes of heat from infra-red lamps.

The mechanics of packaging challenge any material, and the adaptability of plastics is a special virtue. In fact, their capabilities have helped advance package design, as in the case of blister packaging—plastic sheet thermoformed to fit the contents and attached to a cardboard backing. With Tenite Acetate, Eastman helped to pioneer this packaging method, which also employs Tenite Butyrate and Tenite Propionate today.

All together, Tenite plastics include formulations to be molded, extruded, or applied as coatings to other packaging materials; to be printed, heat-sealed, or laminated. Where color is important, Eastman can supply over 42,000 colors and effects from its color laboratory **4**. And along with all their other advantages, these plastics have proved economical—a governing factor in the acceptance of a material in the packaging field.

Continuously adapting Tenite plastics to the shifting technology of packaging has given Eastman a fund of information and materials useful in the design of other products. Thus, the stress-cracking resistance of polyethylene makes it practical for pipe to convey chemicals; the moisture resistance of polyethylene led to its use in coating burlap for Army Ordnance huts to protect stored equipment; the easy formability of sheet of Butyrate makes it practical for a miniature planetarium **5**.

We'll be glad to show you how the people at Eastman, with ingenuity and experience, can make plastics fit your ideas for product improvements or new developments. And for a comprehensive picture of Tenite plastics in packaging, get the 20-page booklet "TENITE PLASTICS VIEWS—PACKAGING" by writing to EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, KINGSPORT, TENNESSEE.



1



2



4



3



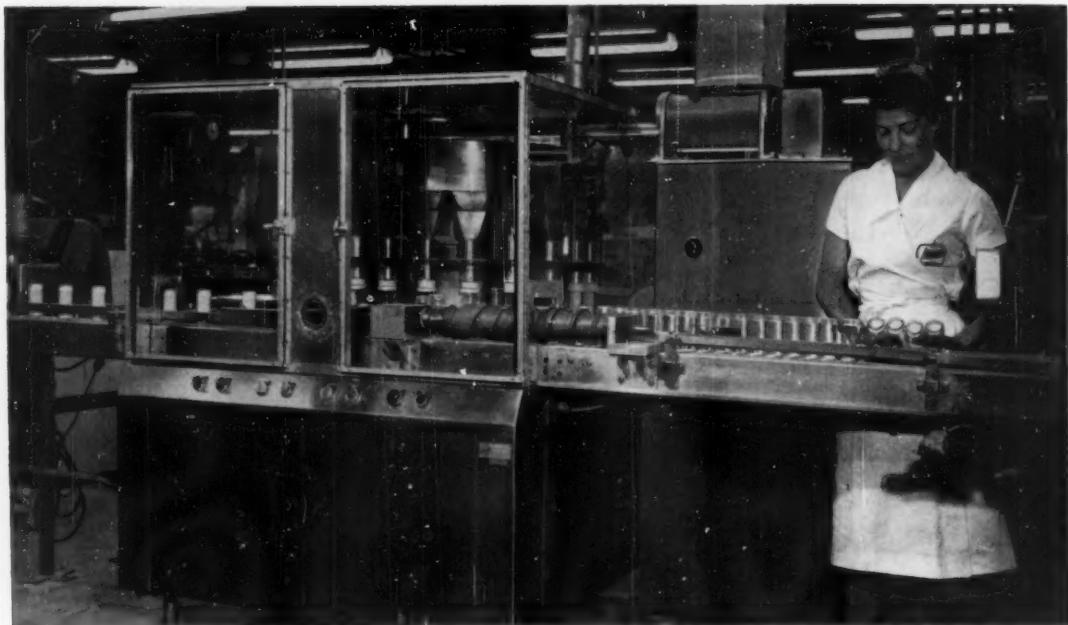
5

TENITE®

ACETATE • BUTYRATE
PROPIONATE • POLYETHYLENE
POLYPROPYLENE • POLYESTER

Adaptable plastics by Eastman

HORIZONTAL



Rotary turntable has been coupled with a continuous auger feed to enable filling of hard-to-handle spices in new high-speed unit, enclosed to permit controlled environment. Horizontal auger (upper right) delivers accurate amount of product into each of 20 pockets.

Intermittent motion has yielded to high-speed rotary action in the filling of fine powders and granular solids with the installation at The R. T. French Co., Rochester, N. Y., of an unusual new filler, designed with a horizontal auger, said to be capable of handling 240 small glass jars per minute. This is triple the speed of previous stop-and-go filling equipment used for such products.

Limited in its present use by other equipment in the line which holds it to a rate of 120 jars per minute, the new rotary filler has nevertheless produced an immediate boost of 50% in filling speed over the previous 80-per-minute machine and has provided a valuable reserve for production expansion for the French line of spices.

In addition to these benefits, the machine provides four other important advantages:

1. *Increased filling accuracy.* The new continuous-motion horizontal auger with special variable-speed control sharpens volumetric feed of the product by eliminating clutch and brake operation, achieving a uniform fill that varies only $\pm 0.5\%$, according to tests by the supplier. For quick settling of the

contents, added mechanical devices provide steady jogging of the jars during filling.

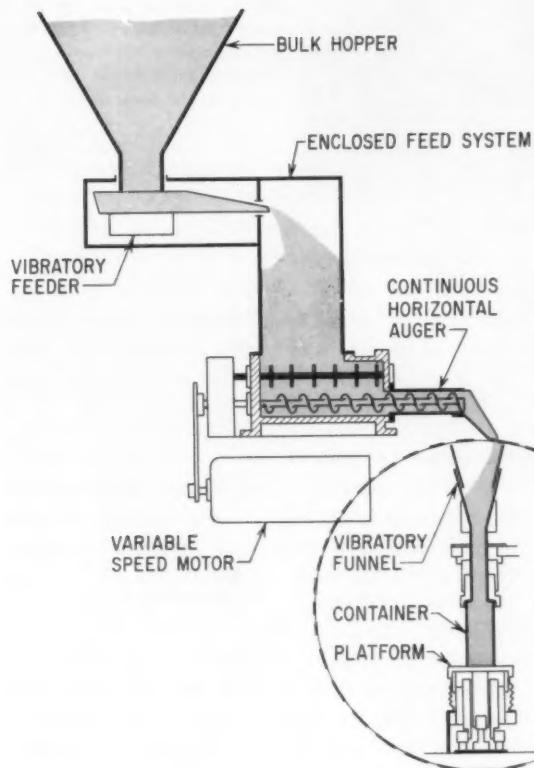
2. *Versatility.* The new machine can be used for virtually every spice packed by French and has already been employed for several that range in type from finely ground garlic powder and granular, flavored salts to whole black pepper and dehydrated green peppers. The filler accommodates two types of glass jars: standard cylinders measuring $3\frac{1}{16}$ in. high and a special square-based $3\frac{3}{4}$ -in. gourmet bottle used in fancy grocery outlets.

3. *Ease of cleaning.* Special two-piece filling pockets that are snapped out of the turntable by pulling a single pin aid in speeding the clean-up operation and assure effective removal of one spice before switching to another.

4. *Humidity and dust control.* The unit is completely enclosed and has an air-conditioning system devised by French's engineers that permits only dehumidified air to contact the product and prevents the spread of product dust.

The principal innovation in mechanics in this filler is the unique combination of a horizontal

AUGER FILLER



auger for product feed with a rotary turntable that carries the filling pockets and containers. A separate electrical variable-speed drive and control on the auger permits precise adjustment of fill. The turntable drive has a "dry-fluid" clutch that is designed to control starting acceleration and prevent the possibility of damage to the glass containers.

Accurate product feed

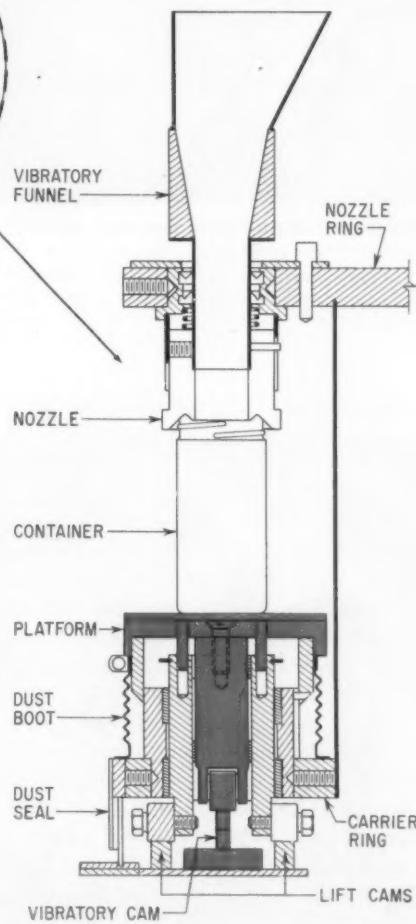
The product is prepared in a room above the second-floor packaging department and dropped to the supply hopper on the filling machine via tubes and a vibrating trough feeder designed to reduce head pressure on the horizontal auger.

The supply hopper, located on top of the auger screw feed, is made of clear acrylic plastic to allow the operator to watch product level and feed.

Variations in product feed, caused in many vertical auger feeders by fluctuations in product level, are minimized in this unit by the horizontal position of the auger. With very difficult-to-handle products, such fluctuations reportedly can be completely eliminated in this machine by using the two auxiliary

At R. T. French, it feeds dry items to jars on a rotary table, achieving high speed, infinite variability and accuracy via innovations in mechanics

Feed system (left) employs vibratory unit to fill both the auger hopper and horizontal screw, which delivers adjustable product supply (shown in color) to filling pockets. Jogging mechanism (below, in color detail) has a central saw-tooth cam rail and follower that vibrates the jars to settle the dry product.



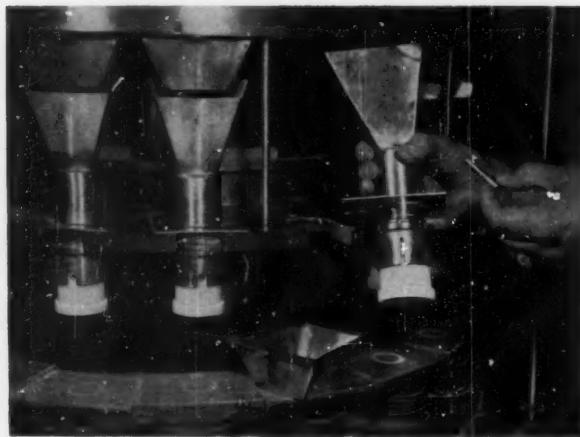


Small granular

Leafy

Large irregular

Many products have already been handled on this versatile machine, which encompasses spices ranging from fine garlic salt and fluffy parsley and oregano to coarse peppers and minced onion. Standard round jars and square-bottomed containers are handled by French on the same line.



Quick-cleaning feature of machine is the removal of a single pin to permit pulling the entire two-piece filling head from the machine. Thorough clean-up is vital when changing over from one pungent spice to another.

back-feed augers (located above the main screw), which stabilize the rate of feed. So far, these supplementary augers have been used on the French line only with leaf spices.

The continuously turning auger discharges the product over a series of 20 pockets spaced around the rim of the filling turntable. There are no cut-off valves on these pockets, since the product is automatically metered into each pocket as the table turns and the jars are already in position under the pockets before product is introduced. To minimize dusting, the powdered products are fed into the filling pockets by means of a chute.

Since the turntable revolves at a constant rate, each pocket receives the same amount of product—a volume that can be accurately varied by small changes in the revolutions of the auger feeder.

The variable-speed control on the auger has both high and low ranges, each operating at a two-to-one

ratio and giving the broad flexibility of adjustment needed at French, where spice products differ radically in such physical properties and characteristics as density, shape and size of particle.

Designed for speed

With this metering system, which eliminates the lag and errors incident to stop-and-start vertical augers operated by mechanical clutches and brakes, speed of filling is said to be limited only by the ability to get the product and the packages to the filler. With more experience, supplier and packager engineers are confident that this machine may even exceed its present top rating of 240 jars per minute.

On the line, the spice jars are uncased by hand, enter the filler on a belt conveyor and are spotted on the turntable by a variable-pitch feed screw and star wheel. Each lifter on which the bottles travel around the table is controlled by two cam rails which act independently. A standard smooth cam engages two cam wheels on the "truck" of the lifter and raises each jar against a filling pocket. To insure maximum filling time, the jar is held in this position for 17 stations (over 300 deg.).

Product agitation

However, the main problem with these fine or fluffy products often is to settle them in the jar. To accomplish this, the turntable lifters are connected through stems and cam wheels to a second cam rail serrated with saw teeth spaced $1\frac{1}{4}$ in. apart. This track continuously agitates the containers throughout the filling cycle. Filling spouts are spring loaded to maintain continuous contact between the jars and the filling spouts during this jogging action, which occurs at a rate of 360 vibrations per minute with a $\frac{1}{4}$ -in. stroke.

To prevent clogging the filler with moisture-sensitive products and

[Continued on page 212]
SUPPLIES AND SERVICES: Continuous powder filler by G. Diehl Mateer Co., Wayne, Pa.

Beverage in a bag

Calypso's convenient liquid-holding polyethylene-film container with drinking straw attached has created a stir in Canada, may invade U. S.

The versatile polyethylene bag—in the form of a disposable single-service beverage container with drinking straw attached—is giving an infant Canadian packager a toehold in that country's competitive soft-drink market, largely on the basis of novelty and convenience. The package has intrigued public interest both in Canada and the U. S.

The novel, pillow-shaped package is used by Calypso Food & Beverage Co., Toronto (28 employees), for Tropic-Orange, a non-carbonated soft drink. The 8-oz. container consists of an unsupported polyethylene bag with 4-mil walls, a paper saddle label and a paper-wrapped polystyrene drinking straw that fits into a pair of die-cut openings in the label. One end of the semi-rigid plastic straw is beveled to facilitate puncturing the bag wall.

Interestingly, this is the third non-rigid beverage container with drinking-straw convenience to come to light recently: Quality Chekd dairies' polyethylene-coated paper tetrahedron for milk with a tape-sealed opening for straw access and a major supplier company's tetrahedral container with a pop-out polyethylene drinking tube.*

Calypso's filling operation is largely automatic.

* See MODERN PACKAGING, May, 1961, p. 114, and "Straw Opening on Tetrahedron," MODERN PACKAGING, Aug., 1961, p. 101.

Basic appeal of Calypso's film bag for a non-carbonated orange drink is its novelty. Polystyrene drinking straw, attached through die-cut openings in saddle label, is sharply beveled on one end to facilitate puncturing the 4-mil bag wall. Bags are marketed in a colorful six-pack carry carton.

Bottom-sealed bags are prefabricated from tubular stock. After filling, the bag top is double heat sealed and the pre-printed, adhesive-treated paper label applied. Straw is attached to label manually.

According to the packager, the filled and sealed bag withstands normal pressure of packing and handling without difficulty. It would not, of course, be suitable for a carbonated beverage.

The film-bagged drink is marketed in a colorful six-pack carry carton and is sold singly from a 24-unit plastic tray supplied by the packager.

In addition to low packaging-material cost, the flattened bag offers substantial shipping economies. Calypso says that filled bags weigh only one-fourth as much as comparable-content bottles and that four bags occupy the space required by one bottle.

Indicative of its success is Calypso's report that 70% of current sales constitute repeat business. The packager also is preparing to expand distribution to include U. S. markets and plans are currently under way to introduce new items—including a flavored milk drink—in polyethylene bags.

SUPPLIES AND SERVICES: Printed film bag by Mastex Industries, Div. Canadian Industries, P. O. Box 10, Montreal. Carry carton by Du Pont Paper Box, 1244 Dufferin St., Toronto.



Cost-cutting polystyrene multipack clip for cans



A plastic can-multipacking clip that rides atop the containers to permit full package visibility is reported by Arizona Brewing Co., Phoenix, to be paying off in consumer appeal and greatly reduced packaging costs. The flat, rectangular clip—used for the brewer's A-1 beer in cans—basically is nothing more than a strip of specially formulated impact polystyrene. It has six molded-in flanges (three on each side) that engage can-top chimes to hold the containers securely in place. Removal of individual cans is effected by a simple downward twisting action. Two molded-in finger holes enable the filled multipack to be carried easily.

Designed to fit both 12- and 16-oz. cans, the multipack clip is applied on specially developed automatic machinery at a reported rate of 120 six-packs per minute.

According to the packager, the plastic multipack clip saves 33% in material costs compared with paperboard carriers for 12-oz. cans and 50% compared with 16-oz.-can carriers. The device's light weight and compactness offer substantial savings in shipping and storage costs. "Phantom Pack" plastic clip and multipacking machine sold by Brunsing & Sons, 260 California St., San Francisco 11.

COST CUTTERS

Economical blend of polyethylene-film properties



An interesting and economical "marriage" of high-density and low-density polyethylene film is represented by the all-plastic rack bag in which American White Cross Laboratories, New Rochelle, N.Y., is marketing cotton balls through self-selection stores. To withstand the strain of rack hanging, the bag's printed header—with integral grommet—is fabricated of tough high-density polyethylene. The bag portion, sealed to the header, is low-density polyethylene.

According to the packager, the all-plastic bag is 40 to 60% less costly than a film bag with paper header, which would require additional material costs (including the cost of metal grommeting) and the extra production step of stapling the header to the bag. The bottom-loading film bag is supplied to American White Cross in prefabricated form. After filling, the only production operation required is bottom heat sealing. A perforated slot across the back of the polyethylene bag permits it to be used as a convenient hang-up dispenser in the home. A light tug separates the perforations for access to the product without destroying the package. Printed rack bag by Northland Bag Corp., 53 School St., Yonkers, N.Y., using Visking polyethylene.

Foam-plastic filler bar saves Colgate 30 to 50%

Lightweight polystyrene foam, used as filler in an unusual premium-offer package, is credited by Colgate-Palmolive Co., New York, with saving 30 to 50% in packaging costs compared with conventional filler materials.

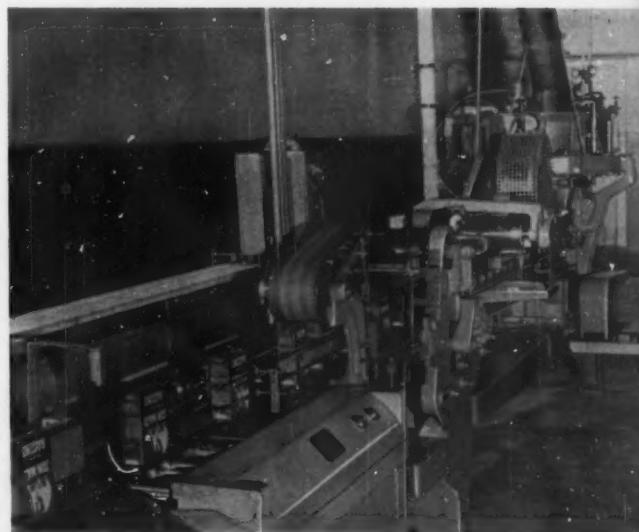
The company's new combination-offer package is an intriguing two-compartment carton containing a tube of Colgate toothpaste in one section and two free special-size bars of Palmolive soap in the other. The deal is available with giant-size and economy-size Colgate. Because the soap bars do not extend the full width of the carton, filler material is needed to hold them firmly against the die-cut face of the container. Filler thickness required is $\frac{1}{32}$ in. for the giant-size carton and $\frac{1}{16}$ in. for the economy size. Low-cost polystyrene foam's ease of fabrication to such odd dimensions was a decisive factor in its adoption, says C-P. The packager points out that standard fillers would have required special production runs to meet the specifications. In addition to low cost, the rigid strip of foam plastic is easy to insert behind the soap bars. "Resilo-Pak" polystyrene foam by Armstrong Cork Co., Lancaster, Pa. Printed carton by Robertson Paper Box, Montville, Conn.

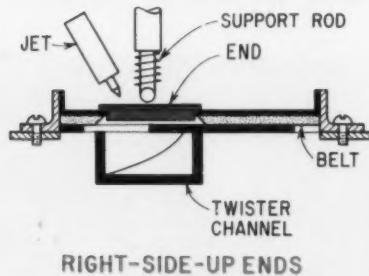
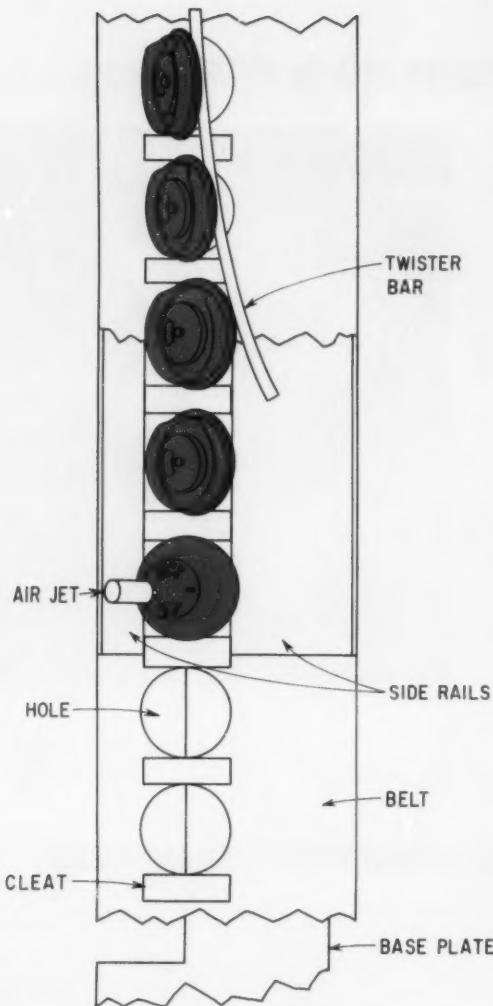


Signal-sending checkweigher solves a sticky problem

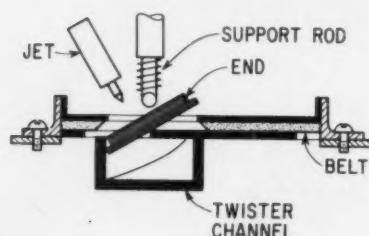
Rapid and accurate filling of products that tend to stick together (such as raisins, prunes and certain confectionery items) is a packaging-line problem of long standing. Product lump-up rules out the use of high-speed machinery designed to handle free-flowing goods. And the packager dares not sacrifice accuracy for speed, since underweight containers can't be marketed while overfilling can destroy profits.

A company that reports it has solved the problem through cooperation with its machinery supplier is Sun-Maid Raisin Growers of California, Fresno. Before calling on the supplier, Sun-Maid tried volume filling. But because raisins vary in size and weight, pre-measured volume did not always conform to specific weight requirements. The solution was to install a checkweigher which continuously averages the weight of passing cartons and sends a signal to the head of the filling machine calling for more or fewer raisins as density changes occur. Since installation, Sun-Maid reports a 25% increase in packaging speed, a 33 1/3% reduction in manhour labor and filling-weight accuracy within $\frac{1}{16}$ oz. *Filling and checkweighing units by FMC Corp., Packaging Machinery Div., 4942 Summerdale Ave., Philadelphia 24.*

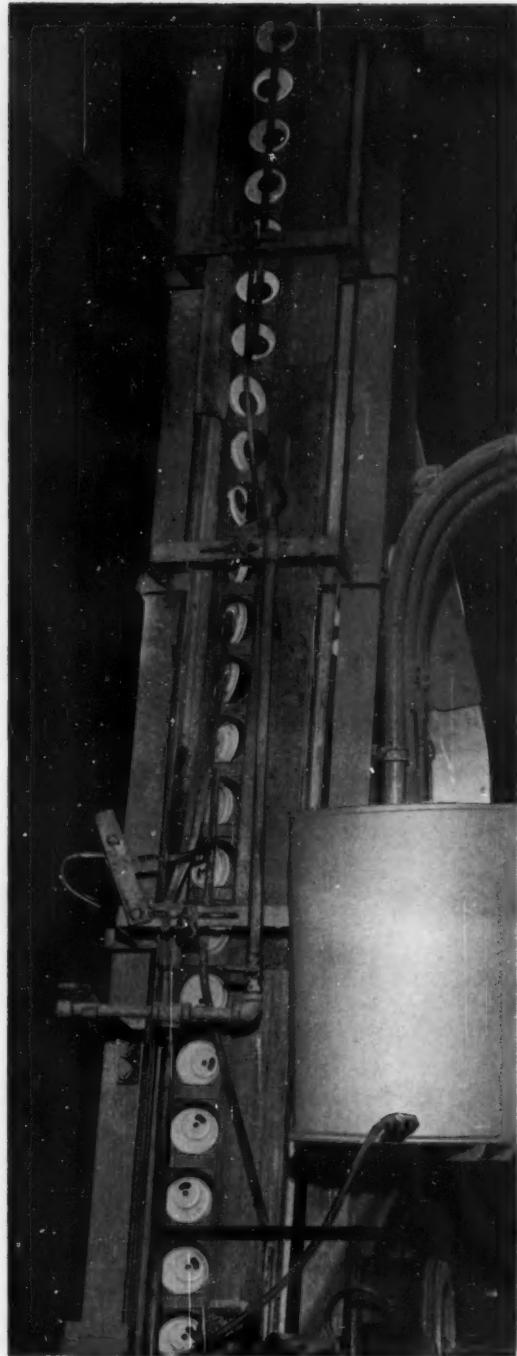




RIGHT-SIDE-UP ENDS



INVERTED ENDS



Vertical unscrambler that aligns polystyrene ends, fed upward from main hopper, is key element in Leslie Salt's new high-speed closing line for salt containers. Simple and effective in construction, this unit consists primarily of a pocketed belt that holds the closures as they slide over a cut-away base plate and under an air jet and twister bar, as shown in plan view (top, left). How ends are controlled is shown in the two cross-section views (left). If the end is right-side up (upper-section view), side rails prevent it from being tipped by the air jet. Flanges on inverted ends (lower-section view) ride under both rails and belt, enabling jet to tip the end cap into position so that the twister bar can turn it over. Polystyrene end comes with polyethylene shake-or-sift plug already in place.

Solving a closing problem

*The designer of Leslie Salt's new high-speed unscrambler and applier for plastic ends on paperboard salt containers tells how his company doubled the rate of existing equipment. By Peter Pinto**



Before adopting a spiral-wound, foil-labeled 12-oz. can for Leslie table salt, we found it necessary recently to devise our own high-speed unscrambler and capper to handle the plastic plug top with integral dispensing fitment for this container. These machines had to operate at the previously unattainable rate of 240 units per minute to justify the cost of high-speed can-unscrambling and can-handling machinery in our new packaging line. This rate for closing was not too difficult to achieve with a simple, rotary vacuum head of our own design. But the unscrambler was more difficult.

The fastest commercial unscrambler that we could

* Process Engineer, Leslie Salt Co., Newark, Calif.

find would handle the flanged, plug-type polystyrene closures used on our package at only 150 per minute. However, we have now constructed and patented a straight-line, continuous-motion unit which operates by means of a simple air jet. We believe this unscrambler solves most of the problems encountered with conventional machines. It is capable of very high efficiency and the speeds attained range up to 300 caps per minute—double that of other available types of equipment.

Because of its flexibility and simplicity, we believe that the machine's design may be of interest to packagers using many other rigid containers.

Conventional unscramblers usually employ vibrat-

Automatic line, incorporating new unscrambler (center), starts with high-speed can unscrambler (not shown). Rotary unit (right) fills container; straight-line machine with rotating vacuum head (center) closes container.





Sorting hopper, positioned at floor level for easy filling, introduces ends into pocketed belt, which is formed into a curve by the large wheel. This wheel rides on the uncleated half of the belt. Note air jet and aligning section at upper left.

ing bowls that feed caps out on to spiral tracks, pick-up wheels, belts or rotary drums. These unscramblers have one thing in common—they will reject the "wrong-side-up" caps and return them to storage or to the pick-up hopper. Efficiency of this type of unscrambling is about 40%. That is, if the pick-up section selects 300 caps, only 120 to 130 are positioned correctly and fed to the capper.

Also, with pick-up wheels having slots or pockets, higher surface speeds do not always mean higher production. This can be readily understood by comparing the possibility of a cap falling into a pocket while the pocket is speeding by, with the possibility of the same cap falling into place when the pocket speed is retarded. Nearly all of the pockets will receive a cap at the lower speed, but only about half of the pockets will be filled at the higher speed.

In our new unscrambler, the object is not only to fill all of the pockets, but also to use all of the container tops in these pockets instead of rejecting the "wrong-side-up" ones. This is accomplished in our unscrambler with a belt conveyor, which is cleated across half its width and has holes cut through the belt between the cleats to contain the caps. Because it has a large capacity, this belt travels at a relatively slow speed.

The endless belt passes around a "half wheel" of large diameter that engages only the cleatless side of the belt and forms the cap-handling side into a curved pocket that is positioned adjacent to a slanted hopper or chute. The belt then passes upwards at a 75-deg. angle through the alignment section, over a drive pulley on top, where the plastic ends are discharged into a chute, then returns around three idler pulleys to the hopper pocket.

At the hopper, the pitch of the chute and the cleats

on the belt insures that an end is deposited in random position in each hole in the belt. The holes are sized for a loose fit on the ends (which measure 2.125 in. in diameter and 0.375 in. in height). The holes are cut on a slant, with the larger circumference on the under side of the belt.

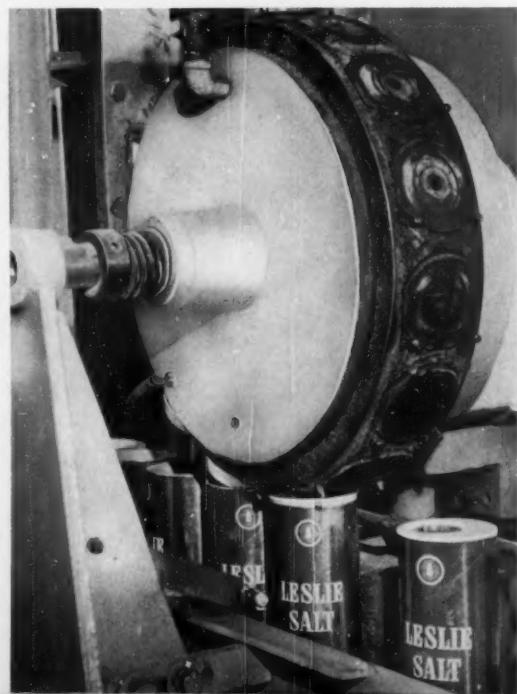
Our plastic top has a small flange—typical of most plug ends—which we use to orient the closure.

As the belt holding the tops moves upward toward the aligning section, the closure flanges ride on two side rails and the closure rests on a bottom rail that also supports the belt. Right-side-up tops ride with the flange on top of the side rails. The wrong-side-up tops ride with the flange under these rails.

At the aligning station, the bottom rail is cut to half the diameter of the holes in the belt, thus leaving one side of the plastic ends unsupported from below. Here, a constant air jet is directed at the unsupported side of the tops at an angle of about 45 deg. Right-side-up tops will not tip, of course, because they are supported by the side rails. But the reversed ends do tip and are caught, as the belt moves on, by a twister bar that turns the closures 180-deg. and positions them right-side up in one smooth and continuous motion.

We have also used this device for caps without flanges—friction-fit caps that slip over the neck of a container (such as those used on aerosols). Here, a spring-loaded retaining [Continued on page 228]

Rotary closer consists of a simple vacuum drum moving counter-clockwise to pick up plug-type ends from track behind the wheel and force them into tops of the containers in one smooth, continuous motion. Container rim is pre-moistened with perchloroethylene solvent, which "glues" the end in place.



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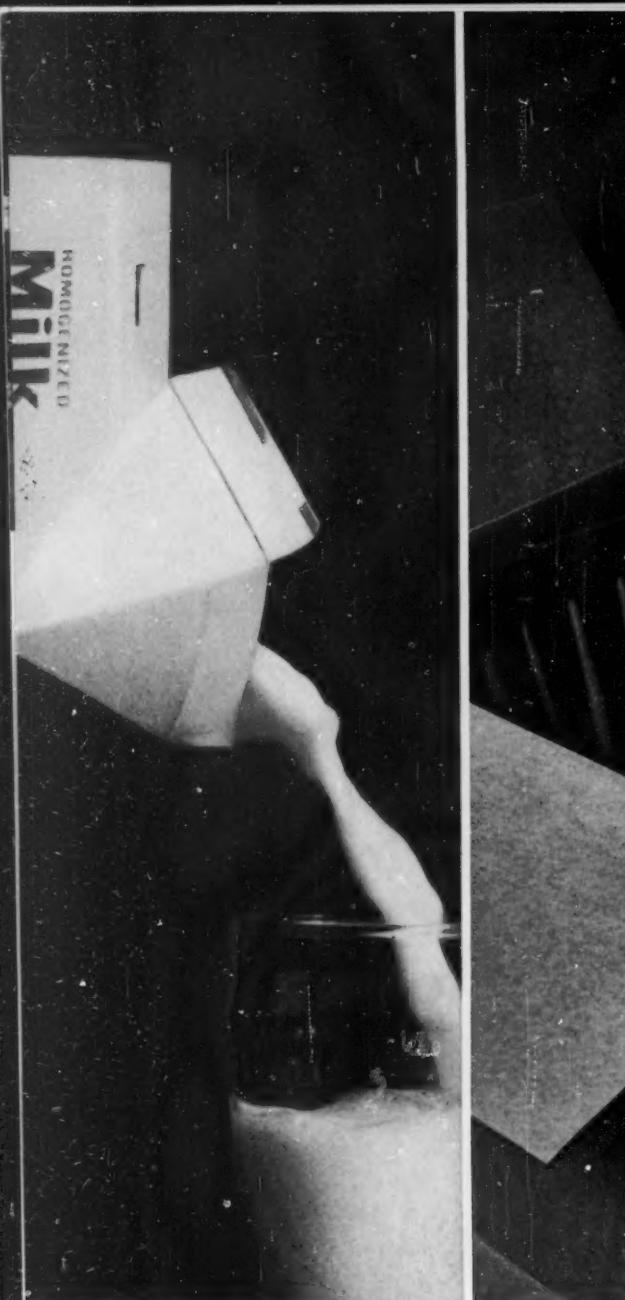
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Food status of aluminum foil

*Industry-wide study indicates that residues of rolling oils remaining on aluminum foil are well below the limits acceptable under the Food Additives Amendment. By Kenneth Morgareidge**

As a result of collaborative study participated in by the laboratories of eight manufacturers of aluminum foil, it is concluded that residues of rolling oil remaining on the finished surface pose no food-additives problem and that aluminum foil made by current manufacturing practice is a food-packaging material "generally recognized as safe" (GRAS) under the Food Additives Amendment to the Federal Food, Drug & Cosmetic Act. This is an example of industry initiative through which many F&DA questions could be clarified.—Ed.

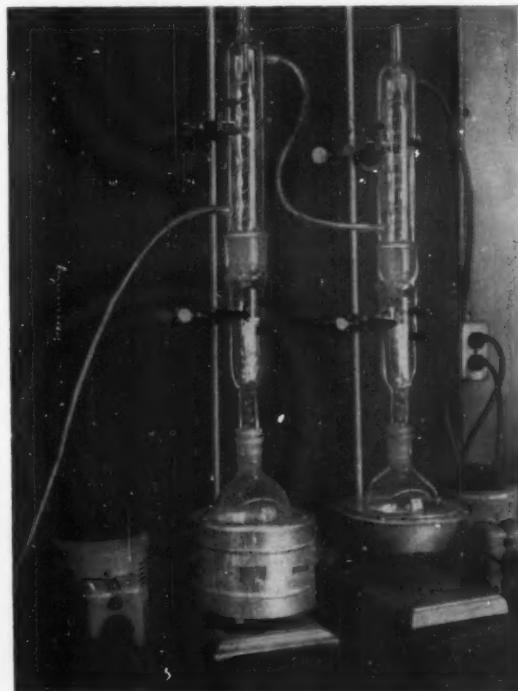
Rolling oils are necessary in the production of aluminum foils to provide heat transfer and cooling of the metal, to lubricate the mill rolls and to prevent imperfections in the surface of the finished foil. These oils are required to have certain physical and chemical properties, among which are certain specified viscosities, high volatility and chemical stability. The latter is particularly important due to the slight residue remaining on the finished foil, which must not discolor the metal or otherwise harm its surface.

In connection with an evaluation of the status of aluminum foils for packaging foods under the provisions of the Food Additives Amendment of 1958 to the Federal Food, Drug & Cosmetic Act, a study of foil residues was initiated by the Foil Div. of The Aluminum Assn. under the auspices of its Technical Committee. This report will summarize the data obtained in the study.

Aluminum-foil stock is reduced to foil gauges by successive passes through rolling mills until the final desired thickness is obtained. At each pass, special oils are applied to the metal as it enters

the mill. Oils used in the final passes of the rolling process are naturally the oils which remain on the foil. These finishing oils have as their major component low-boiling, low-viscosity petroleum fractions, generally characterized as kerosenes or Stoddard solvents, together with minor amounts of petroleum fractions having slightly higher viscosities. All petroleum fractions employed are restricted to those having distillation end points below 700 deg. F. Other minor ingredients of the finishing oils include edible vegetable or animal fats, or their

Figure 1. Extraction apparatus used to recover surface residues from aluminum foil.



*Assistant Director, Food & Drug Research Laboratories, Inc., Maspeth, N. Y.

derivatives, such as fatty acids and fatty alcohols having even-numbered carbon atoms through C₁₈.

A number of factors may be expected to affect the amount of residual oil remaining on the finished aluminum foil. Chief among these is the heat treatment (annealing), which varies with the degree of hardness desired in the product. Another factor is the finish gauge (thickness), with slightly more residue remaining on the heavier foils.

Experimental

(A) *Design of the study.* In order to obtain factual data on the amount and character of residue present on typical commercial aluminum foils, the eight collaborating manufacturers were asked to select random samples from stocks representing

light (0.35 mil) and heavy (5.0-6.0 mils) foil, both before and after annealing. The laboratory examinations requested consisted in determining the total weight of residue soluble in purified iso-octane and the ultraviolet absorbance of this residue in accordance with procedures established in advance by the Technical Committee. The instructions provided to the collaborators are given below.

(B) *Preparation of samples.* Select representative commercial coils of aluminum foil from those available in stock. Strip off the outside turn of foil and discard. Carefully avoid contamination or damage from handling the foil. Remove a 16- to 18-ft. length from the coil and place flat on a clean surface (table or floor area protected by lengths of new kraft paper). Place a clean flat template (wood

Table I: Summary of total residue data

Type of foil*	No. of tests	Surface residue (mg./sq. ft.)	Standard deviations	Upper limit of range†
Thin-soft	82	0.087	±0.068	0.29
Thin-hard	86	0.19	±0.11	0.52
Heavy-soft	58	0.53	±0.30	1.43
Heavy-hard	66	0.83	±0.47	2.24

*Thin foils ranged from 0.25-0.35 mil in thickness. Heavy foils ranged from 4.5-6.0 mils in thickness.

†At $p = 0.01$ (three standard deviations).

Table II: Residue absorbance at 275 m μ

Type of foil*	No. of tests	Absorbance†	Standard deviations	Upper limit of range**
Thin-soft	82	0.040	±0.027	0.121
Thin-hard	80	0.038	±0.041	0.161
Heavy-soft	58	0.061	±0.034	0.163
Heavy-hard	66	0.065	±0.037	0.176

*Thin foils ranged from 0.25-0.35 mil in thickness. Heavy foils ranged from 4.5-6.0 mils in thickness.

†Aim for total residue from 30 sq. ft. of foil surface dissolved in 100 ml. iso-octane.

**At $p = 0.01$ (three standard deviations).

Table III: Residue absorbance at 295 m μ

Type of foil*	No. of tests	Absorbance†	Standard deviations	Upper limit of range**
Thin-soft	82	0.040	±0.031	0.133
Thin-hard	80	0.049	±0.031	0.190
Heavy-soft	58	0.045	±0.024	0.117
Heavy-hard	66	0.080	±0.051	0.233

*Thin foils ranged from 0.25-0.35 mil in thickness. Heavy foils ranged from 4.5-6.0 mils in thickness.

†Aim for total residue from 30 sq. ft. of foil surface dissolved in 100 ml. iso-octane.

**At $p = 0.01$ (three standard deviations).

Table IV: Residue absorbance at 300 m μ

Type of foil*	No. of tests	Absorbance†	Standard deviations	Upper limits of range**
Thin-soft	82	0.033	±0.022	0.099
Thin-hard	80	0.038	±0.037	0.149
Heavy-soft	58	0.044	±0.023	0.113
Heavy-hard	66	0.061	±0.048	0.205

*Thin foils ranged from 0.25-0.35 mil in thickness. Heavy foils ranged from 4.5-6.0 mils in thickness.

†Aim for total residue from 30 sq. ft. of foil surface dissolved in 100 ml. iso-octane.

**At $p = 0.01$ (three standard deviations).

Table V: Residue absorbance at 350 m μ

Type of foil*	No. of tests	Absorbance†	Standard deviations	Upper limit of range**
Thin-soft	82	0.0093	±0.0077	0.032
Thin-hard	80	0.0070	±0.0070	0.028
Heavy-soft	58	0.010	±0.0079	0.034
Heavy-hard	66	0.030	±0.019	0.087

*Thin foils ranged from 0.25-0.35 mil in thickness. Heavy foils ranged from 4.5-6.0 mils in thickness.

†Aim for total residue from 30 sq. ft. of foil surface dissolved in 100 ml. iso-octane.

**At $p = 0.01$ (three standard deviations).

Table VI: Residue absorbance at 400 m μ

Type of foil*	No. of tests	Absorbance†	Standard deviations	Upper limit of range**
Thin-soft	66	0.0034	±0.0037	0.015
Thin-hard	60	0.0024	±0.0027	0.011
Heavy-soft	43	0.0035	±0.0034	0.014
Heavy-hard	47	0.0082	±0.0088	0.035

*Thin foils ranged from 0.25-0.35 mil in thickness. Heavy foils ranged from 4.5-6.0 mils in thickness.

†Aim for total residue from 30 sq. ft. of foil surface dissolved in 100 ml. iso-octane.

**At $p = 0.01$ (three standard deviations).

or metal) 3 in. wide by 15 ft. long along one edge of the large sheet of foil and cut out one strip with a very sharp blade (avoid tearing). Repeat the operation to obtain strips of foil from the opposite edge of the sheet and from areas near the center until four such strips have been cut. Using a 6-in. length of quarter-inch glass rod, roll up each strip to form a loose coil. Transfer to a beaker and place in a desiccator over fresh anhydrous calcium sulfate (Drierite). After 2 hrs., quickly remove the coils and weigh on a rapid, semi-micro balance to the nearest 0.00001 gram. Transfer the coils to individual 33-mm. standard Soxhlet thimbles.

During the above operations, work in a dust-free atmosphere and be sure that all glassware and equipment are free from dirt or lint. If proper technique has been employed, the coils of foil should rest loosely in the thimbles with the individual turns visibly separated from each other. It is recommended that the operator wear clean rubber or lintless-cotton gloves. Smooth-tipped forceps may also be employed to aid in handling the coils.

(C) *Extraction.* Place each of the four thimbles containing a strip of foil into a separate Soxhlet apparatus of appropriate size fitted with a reflux condenser and a 500-ml. boiling flask. Fill the body of the Soxhlet tube with spectro-grade iso-octane until it siphons into the flask and then refill the tube. Supply heat to the boiling flask and allow extraction to continue for at least 8 hrs. (overnight extractions may be convenient where laboratory safety regulations permit). Remove the rolled strip of foil from the thimble with forceps and rinse with a stream of iso-octane from a wash bottle, returning the washings to the Soxhlet. Dry the strip on a watch glass in a 105-110 deg. C. oven for 2 hrs. and weigh. Return the strip to the extraction apparatus and continue the extraction for another 4 hrs. Again rinse, dry and weigh the strip. If the second weighing checks the first within 0.5 mg., consider the extraction of residue to have been complete. In routine work, the second weight check may be omitted after the analyst has satisfied him-

Table VII: Suggested limits representing 'good manufacturing practice'*

Surface residue (total)†	2.25 mg./sq. ft.
Ultraviolet absorbance (A _{1cm})	
275 m μ	0.20
295 m μ	0.25
300 m μ	0.22
350 m μ	0.10
400 m μ	0.05

*Based on upper limit of observed variability which would include 99% of the individual values.

†As determined by methods described in this report.

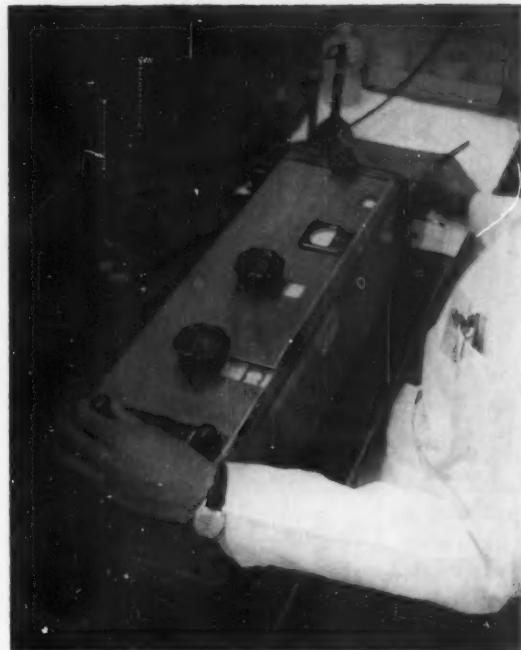


Figure 2. Ultraviolet spectrophotometer employed to characterize surface residues.

self that the total extraction time has been long enough to remove completely the iso-octane-soluble material from the foil. Record the final dry weight of the extracted coils.

Combine the iso-octane extracts in all four Soxhlet tubes and flasks in one beaker of suitable size. Rinse each tube and flask thoroughly with fresh solvent and add the rinsings to the beaker. Evaporate the solvent on a steam bath under a stream of inert gas (nitrogen or carbon dioxide) until the volume has been reduced to less than 100 ml. Transfer the total extract to a 100-ml. volumetric flask and fill to the mark with fresh iso-octane.

(D) *Spectrophotometry.* Employ any suitable instrument capable of yielding accurate ultraviolet-absorbancy data over the range 250-400 millimicrons. For the purposes of this study, the manually operated Beckman, Model DU, Quartz Spectrophotometer equipped with hydrogen-discharge light source and 10-mm. matched silica cells is satisfactory. Automatic-recording ultraviolet spectrophotometers may offer provision for continuous curves over the spectral region of interest.

Determine the absorbancy of the extract in iso-octane obtained from 15 sq. ft. (30 sq. ft. both sides) of foil made to a final volume of 100 ml. at 275, 295, 300, 350 and 400 millimicrons with pure iso-octane in the reference cell. For readings at the four latter wave lengths, fill the sample cell directly with the extract. The value at 275 millimicrons is determined on a 1:10 [Continued on page 216]

Surface treatment of glass

The effort to capture more of the inherent strength of glass containers involves coatings to minimize bruises and abrasions.

A review of available methods. By J. W. Hackett and H. A. Steigelman†*

During the last 25 years there has been an intensive attack on the problem of preserving the intrinsic strength of glass which is measured immediately after the forming of a glass article. The goal of this research has been to achieve a higher useful percentage of the theoretical strength of glass. Theoretical studies indicate that glass should have a tensile strength between 2,500,000 and 10,000,000 lbs. per square inch. Laboratory experiments have demonstrated strengths between 250,000 and 1,000,000 p.s.i. In commercial glass articles—fibres, plate and bottles—one observes strengths ranging between

*Director of Research and †Project Engineer, Owens-Illinois Glass Co., Toledo, Ohio.

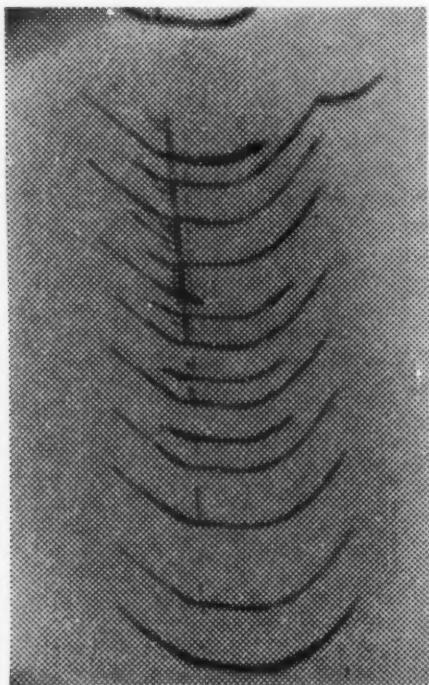


Figure 1. Photomicrograph shows abrasion damage to glass surface caused by sliding contact of newly formed containers.

1 and 10% of the highest measured values on laboratory samples of the same objects.

Why is the observed strength lower than the theoretical strength? This challenging question has intrigued many scientists and engineers. Theoretical and experimental studies have provided at least one answer. It is well known that the strength of brittle materials depends on the condition of their surfaces. In the same way that a chain is only as strong as its weakest link, a glass article is only as strong as its surface is imperfect.¹ Most imperfections are bruises and abrasions which act as stress concentrators, resulting in local stresses far in excess of the applied stress. Thus the observed, useful strength of a glass article is greatly dependent on the amount and degree of such surface damage. Although freshly formed glass containers do not possess absolutely perfect, pristine surfaces, they do have inherent strength far beyond that realized in commercial use. How then does such surface damage originate?

Surface damage and prevention

Newly formed glass surfaces or extremely clean (in the atomic sense) glass surfaces can adhere to each other. Separation of these adhered surfaces, bumping or sliding contact between surfaces cause much of the damage observed. The abrasions so formed (see Figure 1) are largely responsible for the lowering of the strength of a glass container. Aged surfaces of glass do not show this same effect.

As these facts were discovered it became possible to invent means to minimize the loss in strength and to protect the glass container from surface damage. Some of the basic guiding principles for providing such protection are:

1. Apply treatment as soon as possible after forming of the container or article.
2. Use coatings on the glass that will minimize the coefficient of friction.
3. Use coatings or treatments that will be compatible with processing and product requirements.

In recognition of the desire to make glass con-

¹The word "imperfect" is used in a technical sense, recognizing that perfection is never attained.

tainers stronger, lighter and of broader use, Owens-Illinois and other manufacturers of glass containers have utilized a great variety of materials and procedures to prevent or minimize physical abuse of the outside surface of bottles and jars. More than 50 materials have been tested and additional ones are being studied at the Owens-Illinois Technical Center in a continuing effort to find the ultimate in surface treatment. As evidence of the result of this effort, today's jars are as much as $\frac{1}{3}$ lighter than those of several years ago and the performance of these jars is equal to or better than the heavier ones.

Several treatments and materials have received wide trade acceptance, among which are the following: 15-101, Duracote, silicones and sulfur. Details of the properties and methods of application are given in the following paragraphs.

Water-soluble coating

Owens-Illinois' protective film 15-101² is polyoxyethylene monostearate. It provides excellent lubricity to the bottle surface. No. 15-101 is water soluble, not water repellent, extremely transparent and enhances the luster of the container. Because of the 100% vegetable origin of the stearic acid used in its manufacture, it is satisfactory for containers for kosher foods. Food & Drug Administration approval of the coating has been obtained under the Food Additives Amendment; the coating results in less than one part per million addition to the product which is packed in a treated container.

²This number designates Owens-Illinois protection film of polyoxyethylene monostearate.

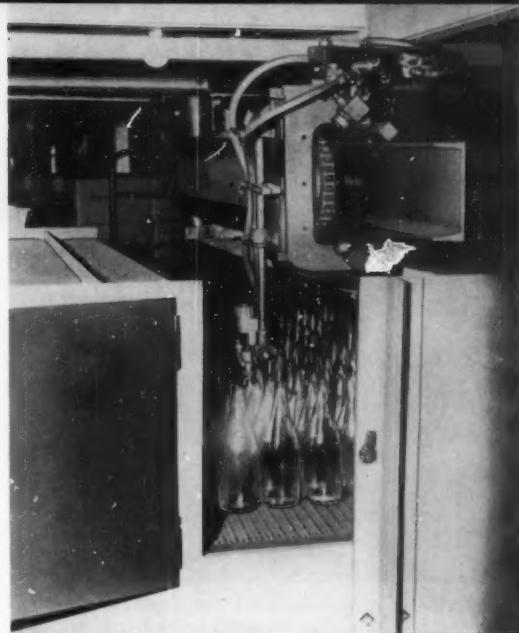


Figure 2. Surface treatment with polyoxyethylene monostearate is applied by spraying the bottles as they pass through the annealing lehr.

The excellent lubricity provides several advantages. Protection is offered against surface scratching, thus maintaining a high proportion of the original container strength. Bottle handling at high speed is improved because friction is materially reduced.

Labeling of 15-101-treated ware is not a problem because the coating is not water repellent. Most commercially available glues work equally well on 15-101-treated and untreated containers. There is no interference with the application of applied color labeling, although the treatment must be repeated

FIGURE 3. CUMULATIVE HYDROSTATIC PRESSURE TEST—BOTTLE A

(Samples handled in normal factory manner and then sent to laboratory for testing by ASTM C147-50 method)

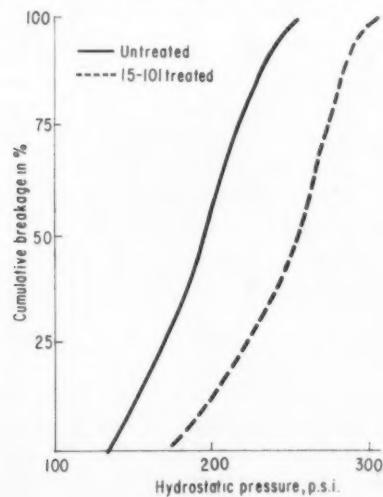
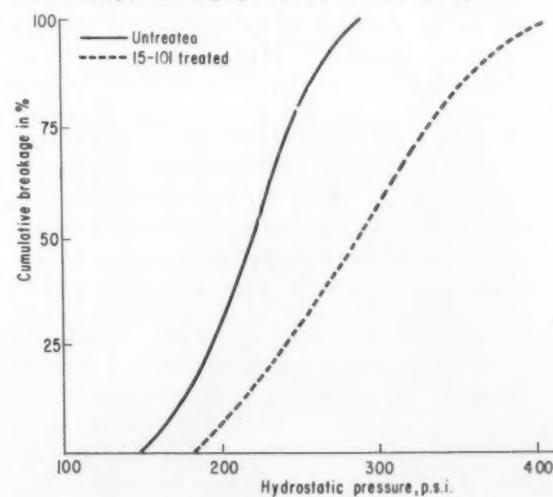


FIGURE 4. CUMULATIVE HYDROSTATIC PRESSURE TEST—BOTTLE B

(Samples handled in normal factory manner and then sent to laboratory for testing by ASTM C147-50 method)



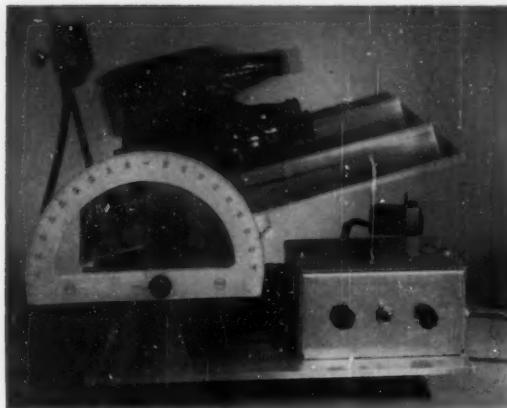


Figure 5. Lubricity tester used to evaluate the sliding friction properties of bottles treated with polyoxyethylene monostearate. Three bottles are placed on tilting table to form a pyramid. Protractor shows angle at which top bottle slides from others.

after the decorated ware is fired because the 15-101 material is destroyed completely by firing.

Containers which are air cleaned and then filled retain the benefits of the treatment throughout their life. Containers which are washed or subjected to autoclaving or pasteurizing lose the protection of 15-101 because of its water-soluble character. The protection is maintained up to the point of contact with water. By this time the surface has aged and adsorbed water, and is less prone to friction damage.

Field experience bears out the conclusion that the customer benefits from greater line efficiency, less down time and less product loss with a coating of this type. No. 15-101 is the surface treatment most frequently supplied by Owens-Illinois. The equipment for its application is available on all Owens-Illinois production lines and treatment is available on any item desired by the customer at no additional cost. About 30% of all production in Owens-Illinois is surface treated. No. 15-101 is the most frequent form of such treatment and represents about $\frac{3}{4}$ of all treated ware at this company.

Application of the 15-101 treatment is made by spraying bottles as they pass through the annealing lehr. The 15-101 solution is prepared by dissolving the raw material in specially treated water. The solution is sprayed on the bottles at a temperature which allows the water to evaporate, leaving a film of 15-101 on the bottles. This is done before the bottles reach the inspection area, where the first bottle-to-bottle or bottle-to-metal contact can occur. A view of the equipment is shown in Figure 2. The spray nozzle travels back and forth across the width of the lehr eight times per minute, spraying three rows of

bottles. Metering of solution to the spray heads must be rather precise to insure the desired level of treatment. A variable orifice in the spray nozzle and pressure control on the liquid-feed line permit control of spray rates to ± 0.1 gal. per hour (± 0.8 ml. per pass). Cleaning of the liquid orifice in the spray nozzle is very important and is done automatically each time the spray gun changes direction. This spray equipment has proved to be very dependable, extremely accurate and capable of applying excellent 15-101 treatment to each and every bottle.

Control of the treatment process is very important. Quality-control checks are made for sliding friction, amount of material applied, as well as the standard tests used in all Owens-Illinois production (see data in Figures 3 and 4).

Figure 5 shows a lubricity tester of Owens-Illinois design used to evaluate the sliding-friction properties of 15-101-treated bottles. This tester consists of a tilting table driven by an electric motor and a protractor for reading the inclination of the table. In operation, three bottles are placed on the table to form a pyramid. When the start button is pushed, the motor drive starts to tilt the table. As the table tilts, it reaches the angle where the top bottle will slide and depress the limit switch directly behind the bottle. The motor driving the tilt table is stopped and the angle can be read on the protractor. Bottles treated with 15-101 slide at angles between 13 to 17 deg., while identical untreated bottles slide at greater angles of 35 to 40 deg. This corresponds to a reduction of the coefficient of friction to less than half its original value. This reduction is effective in reducing the damage which normally occurs from bottle-to-bottle contact so that, after ordinary handling of the ware, treated bottles show an increase in average breakage level (resistance to breakage) of 30 to 40% over that of untreated glass containers.

Duracote

Protective films of low-molecular-weight polyethylene deposited from a water emulsion carry the Owens-Illinois name of Duracote. Such films have different properties from 15-101 which fit them for other service conditions. Duracote is not water soluble and is slightly water repellent. When applied at the proper temperature and in the correct amount, the coating is transparent and imparts a higher luster to the bottle. Lubricity of the bottle surface is somewhat better than with 15-101. Food & Drug Administration clearance has been obtained for this surface treatment for glass containers.

Although quite similar to 15-101, the Duracote treatment has distinct advantages in that it offers continuing protection to the bottle after passing through washing and

[Continued on page 215]

Shock-overload indicators

Tell-tale instruments so sensitive that they are used by the Navy to check packaging and handling of missiles may have other uses in safeguarding delicate products. By K. C. York*

The Terrier and Tartar missile programs use newly developed shock-overload indicators which visually show if a missile has been subjected to excessive shock during missile handling and transportation. Other uses for these shock-overload indicators in the shipping-packaging of delicate instruments are apparent.

The indicators provide the Navy with a continuous check on the adequacy of shipping containers and handling systems. If indicators are repeatedly tripped, either the containers do not provide sufficient protection, or handling procedures are too severe. If indicators are occasionally tripped, accidental mishandling of containers is indicated. In any event, a tripped indicator shows possible damage, so the missile is thoroughly checked before advancing through the chain of supply.

Background

General Dynamics, under a Bureau of Ordnance contract, developed the shipper for the Terrier missile. The container specifications require the use of an indication system which will show excessive shock; that is, over 31G's loading in directions normal to the missile longitudinal axis and over 11G's loading along the axis. The indication system has to work in the temperature range of minus 65 to plus 165 deg. F. Also, the system must remain functional five years without maintenance.

This indication system proved to be a difficult design problem. The first approach considered was to incorporate an indicator triggered by deflection of the missile in the container. This was ruled out due to tolerance problems and temperature effects which change the stiffness of the missile suspension. It was finally decided that the most economical indicator would be a self-contained instrument attached to the missile-handling attachment. The following requirements were set for the instrument:

1. The unit must be re-settable.
2. Non-electrical operation. (Based on five years stowage and the temperature range.)

*Design Specialist, General Dynamics/Pomona, a Div. of General Dynamics Corp., Pomona, Calif.

3. No viscous damping in the instrument. (Based on temperature range.)

4. Instrument must not be damaged by 4-ft. drop on concrete. (Permits accidental drop of unit during installation, etc.)

5. Instrument must not be tripped by $\frac{1}{4}$ -in. drop on concrete or by 5G's vibration applied at any frequency. (If the unit is oversensitive, it could not be installed in the container without occasionally tripping it.)

6. The unit shall not trip when subject to 9G's acceleration, but shall trip when subjected to 11G's acceleration applied in one direction along the longitudinal axis. In any direction normal to the longitudinal axis, the unit shall not trip at 25G's, but shall trip below 31G's steady acceleration. The unit shall be tested on a centrifuge.

7. The unit when subjected to a square shock pulse with 0.02-sec. duration shall trip at an acceleration equal, within 1G, to the steady acceleration required to trip the unit. That is, if a unit trips at 9.5G's under steady acceleration, it has to trip below 10.5G's applied for 0.02 seconds.

These needs call for a $\pm 10\%$ instrument and

Figure 1. Photographic view of Convair Instruments Series 37 shock-overload indicator. Mechanism is enclosed in an anodized aluminum housing with transparent dome which enables observer to see if indicator has been tripped.



the cost of calibrating an indicator with this accuracy on a shock tester would be prohibitive. Therefore, it was decided that centrifuge calibration would be used. This necessitated the 1G correlation between shock and steady acceleration sensitivities.

Details of indicator

The indicator finally selected (Figure 1) is made by General Dynamics/Electronics: Information Technology Division. Figure 2 shows a cross-section of the unit. The indicator consists of a rod having a painted portion which is normally obscured by a spring-loaded opaque sleeve. This sleeve is held in the obscuring (or cocked) position by means of a small trigger which is an integral part of a weight. This weight is held in the cocked position by a soft spring. The whole mechanism is enclosed in an anodized aluminum housing with a transparent dome which enables an observer to see if the indicator has been tripped.

The indicator is tripped when the weight is displaced sufficiently for the trigger to disengage the sleeve. This uncovers the painted portion of the rod. The weight slides down the housing to disengage the sleeve when a shock is applied in the up direction. In normal directions, the weight rocks on the fulcrum ring to release the sleeve. This action meets the Terrier basic requirement for a unit sensitive to both longitudinal and lateral shock.

The second fundamental requirement of a nominal longitudinal sensitivity of 10G's and a nominal lateral sensitivity of 28G's was met through the geometry of the weight. The spring load is applied to the center of the weight. Therefore, if the distance from the c.g. to the top of the weight is equal to the radius of the weight divided by 2.8, the longi-

tudinal sensitivity will be 2.8 times greater than the lateral sensitivity. The weight shown in Figure 2 is designed for the 2.8 sensitivity ratio.

Five units were thoroughly evaluated. The units easily met all the requirements. The longitudinal shock sensitivity was consistently 0.5G greater than the steady acceleration sensitivity. The correlation in lateral directions was within 0.2G. The indicator was found to be very repeatable and unaffected by temperature. The excellent results were obtained through the absence of significant frictional or viscous damping in the design.

The unit actually operates on the "break" principle, i.e., like breaking a glass-reed gauge. If the acceleration exceeds the spring pre-load, the force "breaks" the weight away from the fulcrum ring. If the force is applied for a significant time, indication is obtained. Otherwise, the unit returns to the cocked position. This action, being essentially free of frictional forces, is a very clean one and results in producing a very accurate instrument.

Installation in container

Figure 3 is a photograph of an indicator which has been installed on a missile-handling attachment. The indicator here is shown tripped.

The missile has two handling attachments, one on the aft end and the other towards the front of the missile. (The attachments are necessary to protect the missile aerodynamic surfaces during handling.) Two indicators are used, with one mounted on each handling attachment. The indicators face in opposite directions, with their longitudinal axis parallel to the missile axis. This means one indicator would be tipped by excessive shock in one longitudinal direction; the other indicator would trip if the shock occurred in the other direction. This adequately shows longitudinal shock greater than 11G's. A lateral shock over 31G's occurring in any direction normal to the longitudinal axis will trip either indicator. This provides lateral indication at both ends of the missile, which is necessary since a rotational drop would cause excessive acceleration on one end of the missile only.

The container must be opened to inspect the indicator. This occurs several times during the missile life. A tripped indicator requires a thorough check of the missile before it proceeds through the chain of supply. The missile-handling attachments and indicators are removed when the missile is placed in a magazine on a tactical ship.

For Tartar missile

The Tartar missile program uses indicators in a slightly different manner. Two indicators are mounted on a sensitive electronic package. These

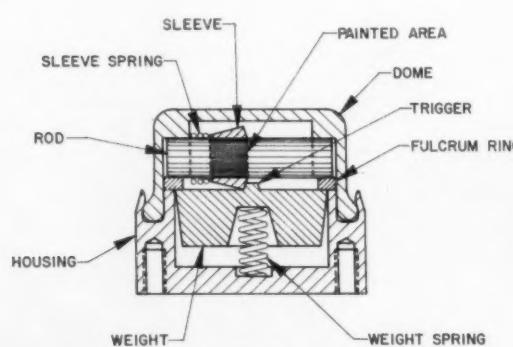


Figure 2. Cross section of shock-overload indicator. Indicator consists of a rod having a painted portion which is normally obscured by a spring-loaded opaque sleeve. This sleeve is held in the obscuring (or cocked) position by a small trigger that is an integral part of a weight. The weight is held in the cocked position by a spring.

indicators remained attached to the package up to the time of flight to indicate excessive shock either in a container or if it is outside a container.

The acceleration sensitivity of the indicator is from 33 to 38G's in both longitudinal and lateral directions. An acceleration pulse of 38G's with 0.01-sec. duration will trip all the indicators. This acceleration sensitivity indicates excessive shock when the package is in a shipping container or when it is dropped on a soft surface. However, this alone does not adequately control shock. Impact of the package against hard surfaces must also be controlled. For example, setting a package down hard on a work bench can cause shocks with amplitudes well over 100G's. Excessive shock of this type must also be defined. Impact shocks for the package are controlled through using the indicator as a "drop-height" detector in addition to its purpose of acceleration indication.

It was determined empirically that a 0.75-in. drop of the Tartar package on a steel plate would not cause a failure. This produces a velocity change, ignoring rebound, of 24 in./sec. The severity of this shock can be demonstrated by considering a component with a severe 200 c.p.s. resonance. A 24-in./sec. impulse would excite this resonance to approximately 75G's. If the resonance occurred at 1,000 c.p.s., the acceleration amplitude would be five times greater, or 375G's. Vacuum tubes, crystals, etc., have very severe resonances at frequencies above 1,000 c.p.s. Components of this type are attached very rigidly to the Tartar package. Therefore, impact-type shocks produce very high G's on critical components in the Tartar package.

The GD/E: ITD indicator can be used to show an excessive impulse. (The Tartar program does not use the GD/E: ITD indicator because the space envelope for the indicator necessitates a unique configuration.) The force acting on the weight is essentially constant because a soft spring is used. Therefore, under impact conditions, the weight deceleration is constant. This means that, ignoring rebound, the weight deflection for a given drop height is simply as follows:

Drop height = weight deflection

Deceleration in G's

Therefore, by controlling the distance the weight must travel to trip the indicator, the drop height at which the indicator will trip can also be controlled.

The Tartar indicator impulse range was set at 16 to 24 in./sec. That is, the unit will not trip when subject to a 16-in./sec. impulse (0.33-in. drop on steel without rebound). It will trip when subjected to a 24-in./sec. impulse (0.75 in. drop on steel without rebound).

The end product was an indicator which will trip

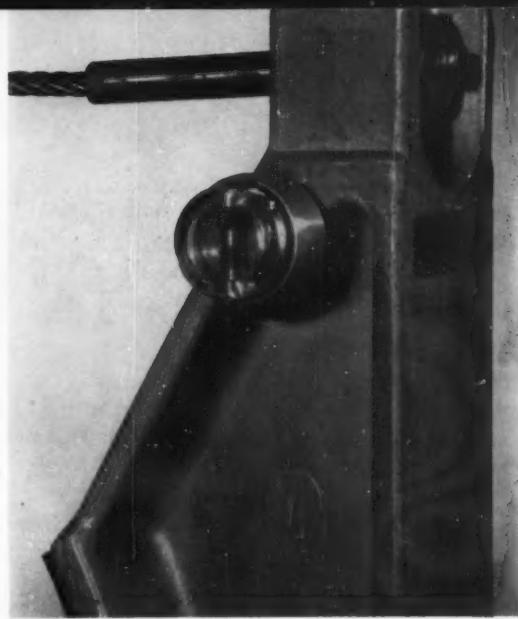


Figure 3. Showing indicator (in tripped position) installed on a missile-handling attachment. The indicator can be reset.

when subjected to excessive shock energy dissipated at accelerations above 33 to 38 G's. In a shipping container, because of the cushioning, the acceleration limit takes over with the unit performing the same as the Terrier indicator. When the package is removed from the container, impacts against firm structures are likely during handling. The 16- to 24-in./sec. impulse sensitivity defines excessive impact-type shock. Therefore, the single instrument is all that is needed to define excessive shocks in the container as well as during handling.

Indicator logistics

The indicators have been in use for a short time only. Therefore, no significant data have been collected on their use and this section of the paper will have to be confined to discussing the fundamental logistics of indicator use.

The prime purpose of the indicator is to show possible missile damage. This permits a thorough check and repair, if necessary, before the missile advances through the chain of supply.

The secondary purpose of the indicator is to provide a continuous check on the adequacy of missile handling and shipping-container design. If a very small percentage of the indicators are tripped, accidents are probably the cause. However, if a significant number of the indicators are tripped, there is a fault in the supply system. Possibly, the container design does not provide sufficient protection against railroad-humping shock. Or, depot handling may be too rough. In any event, the indicator, having advertised the system fault, permits an early definition and correction before a large number of missiles are [Continued on page 236]

Questions & Answers

This consultation service on both technical and engineering subjects is available at your command. Simply address your questions to the Technical Department, Modern Packaging, 770 Lexington Ave., New York 21. Your name or other identification will not appear with any published answer.

Ultrasonic pouch sealing

Q: We have been reading about ultrasonic sealers for packaging use and believe such a system would improve one of our operations. We package a dry, free-flowing food product in a small polyethylene-coated cellophane pouch. The top seal is made with a jaw-type sealer with smooth surfaces. Since the product is slightly dusty and the package is small, we occasionally find poorly sealed areas in the pouch. Would an ultrasonic-type sealer improve seals made under these conditions?

A: The ultrasonic method of sealing introduces a new concept into the making of seals of all types. It will take some time to evaluate fully this new system and to find its areas of greatest usefulness.

However, one of the unique features of this system is the fact that the high-frequency vibrations exert a cleaning action on the surfaces to be sealed. This cleaning effect can be very important in instances such as yours, where static and the filling action can leave a thin layer of product in the closure area.

Reports indicate that sonic sealing will not always effect a strong seal under these conditions and its efficiency in sealing coated films has not been fully tested, but you should certainly try it to determine its effectiveness for your situation.

Sonic sealers are not presently made in the jaw type, but a continuous sealing line can be designed which would feed the filled pouches through a rotary-type sealer.

It is suggested that you try the sonic sealing system with your packages and material to see if it will insure stronger and more uniform seals for your pouches.

More carton strength

Q: We package a new powdered insecticide in cartons and have had a great deal of trouble from containers that become torn or punctured

during shipping. Since the product is a poison, it is most important for us to prevent any scattering. Is there any economical way we can increase the strength of this container?

A: It sounds to us as if you have become a victim of your own economy. Many packagers continually decrease the density or thickness of the kraft or waste board in their cartons to offset increased product costs until they reach a point where shipping and handling damage become greater than any modest savings in packaging materials. So first, we advise you to re-test your cartons in the laboratory to see if they are up to commercial standards. Then, check your shipping cases to see if they are properly sized for a snug fit and if they are being manufactured according to specifications. Even a small amount of slack space in the master shipper can cause trouble and relatively minor points in the design and gluing of flaps on product cartons can have a major effect on performance.

If everything is all right here, then you must consider a different product package. There are several changes that can be made. For example, you might try an external plastic coating or an internal liner for the carton that will increase its basic strength. It may even be necessary to increase the strength of your carton beyond that which can be economically provided by paperboard. For this purpose, there is a new corrugated board with an E flute—a very thin, but strong, material—that has been used recently to upgrade many cartons. It has superior resistance to tearing and puncture and can be converted and handled on paperboard carton equipment instead of corrugated machinery, because it is only $\frac{1}{8}$ in. thick. While this material is not inexpensive, it is said to be more practical in some cases than to make a major increase in the weight of carton board being used.

Blister packaging problem

Q: We recently supplied a card for a blister package that has an over-all printed design. Before shipping the cards, we performed ink-smear tests and also ran heat-seal tests using the packager's own blisters. The tests disclosed no problems. Now we are informed that the blister packages, which are on the market, are separating. What went wrong?

A: You appear to have taken all of the approved precautions in pre-testing this package and for us to attempt a detailed analysis of this problem by mail would not be a sound procedure.

However, there are three points that you should check, which might give an immediate and relatively simple answer as to what went wrong. First, there have been cases in the past where the inks, after aging, caused adhesion problems with blisters. You do not mention any aging period in your ink-smear tests and we would advise re-running these tests, being sure to keep the aging factor in mind.

Second, there might have been a mistake made in coating the card with the heat-sealing compound. We do not know whether you do your own coating or have this done by a contract coater. But, it is possible that the production cards were inadvertently coated with a compound that is incompatible with the type of blisters used by this packager. Such a mistake can be readily checked by re-running the heat-seal tests on the actual cards which are being used by the packager.

Third, you should check the reports from the packager on how and where the separation of the package occurred. It is possible that this was an isolated case, which stemmed from mishandling of the blister packages by either the distributor or the retailer, or from a small segment of the blister cards that contained a manufacturing flaw that is momentary in nature.

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plants & people

AviSun Corp., Philadelphia, this month will dedicate its new 100-million-pound-per-year polypropylene plant at New Castle, Del. The company already has a 25-million-pound facility at Reading, N.J. Nicholas E. Carr, director of mfg., heads up operations at the new AviSun facility.



Humes

William B. Humes has been appointed pres. of Union Carbide Plastics Co., div. Union Carbide Co., New York. Mr. Humes joined the company in 1944. He has served as v.p. of Union Carbide Canada, Ltd. and as director of technical planning for the parent company. Before being named to his present post, his most recent position was v.p. of Union Carbide Plastics.

Continental Can Co. has consolidated its head office staff and New York City offices in a new building at 633 Third Ave. Certain of the company's div. offices from outside New York also will relocate in the building. Headquarters operations of the following are being moved to 633 Third Ave.: Metal Operations Group; Robert Gair Paper Products Group (including the Paperboard & Kraft Paper Div., Bondware Div., Folding Carton & Drum Div. and Corrugated Container Div.); Glass & Plastics Operations Group and Flexible Packaging Div. District offices for out-of-town divs. will be maintained at the new location, and foreign operations will be directed from the building.

Newly elected pres. of Lord Baltimore Press, New York, is William B. Banks.



Banks Dalsemer

He succeeds Leonard Dalsemer, who moves up to chairman of the board. Mr. Banks joined Lord Baltimore in 1929, becoming exec. v.p. in 1959.

Mr. Dalsemer has been with the company for 33 years. He established its New York sales office in 1929 and became pres. in 1958. In other Lord Baltimore promotions, A. William Chapman has been named admin. v.p., Robert B. Ervin becomes mgr. of mfg., and Allen C. Staley, Jr., is now Chicago district sales manager.

New personnel assignments have been made by the packaging sales div. of the film dept. of E. I. du Pont de Nemours & Co., Wilmington, Del. John B. Phillips, Jr., becomes mgr. of the Pacific Coast district, San Francisco, succeeding Kenneth M. Scheu, now on special

assignment. Neale A. Gow is new mgr. of the Eastern district, which has been moved to 308 E. Lancaster Ave., Wynnewood, Pa. Robert K. Cook succeeds Mr. Gow as asst. district mgr. Herman C. Koch has been appointed asst. mgr. of the New York district. Lester S. Willson has been appointed produce specialist and will, according to Du Pont, spend full time developing improved packaging for produce.

A major increase in production facilities at the Grottoes, Va., plastics plant has been begun by Reynolds Metals Co., Richmond. The program is designed to treble the plant's capacity for the production of Reynolite oriented polyvinyl chloride film. It is scheduled for completion by the end of this year. Reynolds also reports that the plant is about to begin expanded production of water-soluble polyvinyl alcohol film.



Shockley

Two new management appointments have been made in the frozen-food sales dept. of Marathon, Div. American Can Co., Menasha, Wis. Robert T. Shockley has been named product mgr. of packaging for fresh fruits and vegetables and dehydrated and freeze-dried products. He is succeeded as asst. dept. sales mgr. by Donald H. Wedin. Mr. Shockley joined Marathon in 1945 and became frozen-food mdsg. mgr. in 1955. Mr. Wedin joined the company in 1947.

John B. Mackenzie has been named mktg. coordinator—plastics, by Enjay Chemical Co., div. Humble Oil & Refining Co., New York. He succeeds Carl Virgin, who will coordinate introduction and marketing of new plastics products and their applications.

National Petro Chemicals Corp., Houston, is a new company formed for the production of high-density polyethylene used to manufacture blown plastic bottles and other products. The company has been formed jointly by National Distillers & Chemical Corp., New York, and Owens-Illinois Glass Co., Toledo, O. C. E. Oman is gen. mgr. of the new company. The manufacturing plant in Houston, to be completed in late 1962, reportedly will have an annual production capacity of around 60 million pounds.

New headquarters of Celanese Corp. of America are at 522 Fifth Ave., New York. The company has taken a 20-year lease on eight floors of the new building. Formerly, Celanese was located at 180 Madison Ave.

Expansion of sales operations has been made by the Bag Div. of St. Regis Paper Co., New York. Harry W.

Walker becomes director of sales for the newly formed Great Lakes-Gulf area, with headquarters in Chicago. Don R. Russell succeeds him as Ohio Valley sales mgr., operating from Columbus. New Eastern area sales mgrs. also have been named, reporting to area sales director Charles A. Woodcock. The new sales mgrs., their region of operation and headquarters city are: William S. Doolan, South Atlantic, Savannah; Robert E. Harrison, Mid-Atlantic, Baltimore; William T. Orr, Northeastern, New York, and William H. Versfelt, Metropolitan New York.



Perry

R. P. Perry has been given the newly created position of director of product development by Bemis Bro. Bag Co., St. Louis. He is succeeded as mgr. of the Minneapolis plant and sales div. by Dexter A. Clarke. K. W. Koechig succeeds Mr. Clarke as Indianapolis mgr. In his new post, Mr. Perry will be responsible for developing effective means of planning and coordinating Bemis' research and development.

Allen Gordon becomes mgr. of mktg. research in the product planning and mktg. research dept., Paper Products Div., Owens-Illinois Glass Co., Toledo.

James W. L. Monkman moves into the newly created post of director of sales for plastics in the Polymers Dept. of Hercules Powder Co., Wilmington, Del. He is primarily concerned with directing the sales activities of Hercules' polypropylene, high-density polyethylene and chlorinated polyether.

Key Packaging & Engineering Co. has been organized to manufacture automatic flexible-film packaging machinery. Pres. of the new company, which is located at Bala-Cynwyd, Pa., is Abe Jacobs.

Continental Can Co., New York, names Theodore C. Baker as asst. to the v.p. and gen. mgr. of its Folding Carton & Fibre Drum Div. He will coordinate developments involving production, sales and the General Packaging Laboratory in Chicago for the firm's Robert Gair paper products group.

Farrington Mfg. Co., Needham Heights, Mass., has sold its sub. company, Farrington Packaging Corp., to Mele Mfg. Co., Utica, N.Y. Farrington Packaging with plants in Maine and Rhode Island, produces plastic containers and other packages and components.

Spencer Chemical Co., Kansas City, has purchased two suppliers of flexible-film packages and packaging materials. They are: Crystal Tube Corp., Chi-



5 beautiful ways Kodacel Sheet helps "sell-on-sight"

Look at the products illustrated. Each totally different, each with sales problems surprisingly similar. "Give us packaging," the manufacturers told J-E Plastics, "transparent, color-true packaging that will show our merchandise at its best—get shoppers to stop, look and buy; packaging that will protect our goods from dust, dirt and fingering, ensure longer shelf-life!"

7½ gauge Kodacel Sheet was the answer—tough, durable—clear as water—easy, economical to handle.

For further information call our representative or write **EASTMAN KODAK COMPANY, Plastic Sheeting Division, Rochester 4, N. Y.**

SHOPPER-STOPPERS designed and produced by J-E Plastics Mfg. Corp. (Yonkers, N. Y.) for (1) Prolon Brush and Comb Set from Pro-phy-lac-tic Brush Company; (2) Fownes Matchables, Fownes Brothers and Company; (3) Treasure Chest, Fabil Manufacturing Corporation; (4) Arrow Men's Handkerchiefs from Cluett, Peabody & Company, Inc.; (5) Opera Mints, Barton's Candy Corporation.

Sales Offices: New York, Chicago, Atlanta. Sales Representatives: Cleveland, Philadelphia, Providence. Distributors: San Francisco, Los Angeles, Portland, Seattle (Wilson & Geo. Meyer & Co.); Toronto, Montreal (Paper Sales, Ltd.)
 "Kodacel" is a trademark for Eastman's plastic sheet.





MUSHROOM PACKAGING

SHOWS - AND SELLS - PRODUCT FRESHNESS

What product requires more freshness protection—more quick appetizing recognition—than fresh mushrooms?

Dawn Fresh Mushrooms have scored a tremendous supermarket success. The fact that a superior product is rushed to market—fresh and delicious—is, of course, important. But packaging plays a key role, too.

The Dawn Fresh package shown is one of five pictorial packages made by KVP Sutherland depicting varied mushroom uses. Package design, fur-

nished by the client, is reproduced in full-color lithography to stand out on vegetable counters. The tapered tray provides complete protection for mushrooms. Separate top is windowed to give excellent product visibility, locks into position to be tamper-proof. To assure maximum production speed, it is rapidly set up with the Kliklok Packaging Machine.

Here we have another example of KVP Sutherland's continuing work in the field of

specialized packaging. Our package engineers are constantly called upon to perfect precisely the right packaging for a wide variety of products. Our complete engineering, design and printing facilities assure freshness protection and sales appeal, guarantee machinability for modern, high-speed production.

If you have a specific packaging problem, or an objective not currently being met, feel free to call on us. No obligation. Simply call or write.



...the paper people

KVP SUTHERLAND PAPER COMPANY.....Kalamazoo, Michigan

cago, and Flexicraft Industries, Inc., New York. The acquisitions bring Spencer into the flexible-packaging industry. Both newly acquired companies will continue to operate independently, as wholly owned subs. of Spencer.

American ThermoForm Corp., Culver City, Calif., has acquired the business and facilities of **Product Packaging Engineering**, also of Culver City, for the manufacture, sale and lease of thermoforming machines used in making plastic parts and products, blister forming, skin packaging, heat sealing and other materials. Product Packaging will be operated as a div. of American ThermoForm which is a licensee for Union Carbide's patented skin-packaging process. The company is authorized to grant sub-licenses to packagers using this process.

Tronomatic Corp., Bronx, has purchased **Dynatech Products, Inc.**, and the company's license for electronic high-frequency molding of expandable polystyrene. The process is reported to offer lower production costs, elimination of steam-molding equipment, faster production rates and increased precision. Tronomatic makes plastic-forming, molding, fabricating, sealing and cutting equipment.

Kenneth E. Cosslett has been promoted to mgr. of export sales, U. S. Industrial Chemicals Co., div. **National Distillers & Chemical Corp.**, New York. He will direct USI's international marketing activities, with emphasis on Petrothene polyethylene resins.

The **Packomatic Div.** is the new name of the former **J. L. Ferguson Co.**, purchased last April by **Textile Machine Works**, Reading, Pa. Textile Machine's newly acquired packaging machinery div. has been transferred to Reading, where the parent company plans to initiate an expanded packaging-machinery research and development program. **John V. Sutton** has been named mgr. of Packomatic. He will be responsible for sales and service activities. Midwestern sales mgr. of the div. is **Lee Ferguson**; Eastern sales mgr. is **Wayne Gary**.

An industrial engineering dept. has been established in the **Canco Div.** of **American Can Co.**, New York. Its prime functions will be to develop standards and to establish or recommend efficient methods of operation. **Robert W. Eidsom** is gen. mgr. of the new dept. and **Howard M. Boardman** is assistant gen. mgr.

Gilbert R. Shockley has been appointed gen. director, product development div., **Reynolds Metals Co.**, Richmond, Va. He will be in charge of the development laboratories in Richmond. [Continued on page 162]

Quality Plastic Packaging at LOW COST!

Plaxall, the originator of pressure-forming, produces millions of transparent Blisters each week. Forming "know how"—over 23 years of plastic forming experience—combines with automated, high speed equipment to reduce Plaxall prices, yet maintain Plaxall quality.

Blister Blitz...

And Plaxall Blister customers save further because of these additional features:

UNIFORM QUALITY—Unmatched pressure-forming techniques assure complete uniformity and rigid conformity to specifications—the last Plaxall Blister the same as the first—thus eliminating costly delays in customer package assembly.

MAXIMUM STRENGTH—Only precision pressure-forming permits controlled distribution of plastic during the forming process—Plaxall Blisters are engineered to develop maximum strength from material used.

ECONOMICAL NESTING*—Uniformity of product assures "nesting" ability—thus effecting customer savings in shipping, handling and storage. Plaxall Blisters are designed to separate quickly—no tugging, or pulling—no delays on customer production line.



*BLISTERS
NESTED FOR
ECONOMICAL
HANDLING

For all types of formed plastic products... call or write

PLAXALL INC.

LONG ISLAND CITY 1, NEW YORK • TELEPHONE STILLWELL 4-4800

Plaxall, Inc. operates under patents owned and licensed by Design Center, Inc., Long Island City 1, N. Y.

coquillard

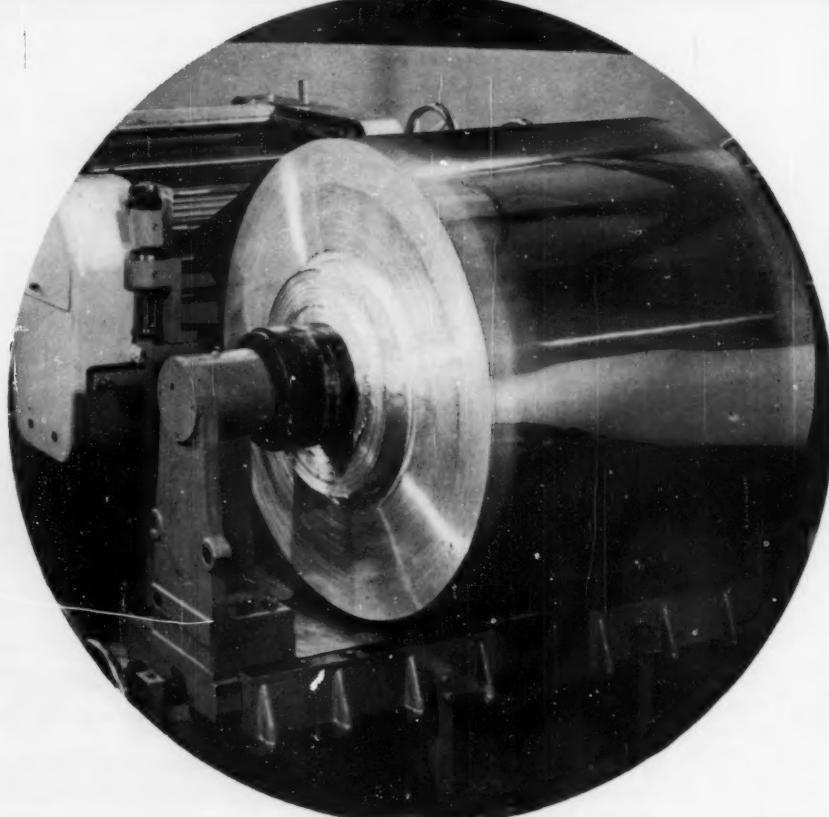
Froges (Isère). **FRANCE**

"It is at Froges that the COQUILLARD Aluminum works established a factory specializing in the rolling and converting of ALUMINUM FOIL. The factory covers an area of 540,000 sq. ft. and employs 1,200 people.

20 ultra-modern, high-speed rolling mills produce ALUMINUM FOIL in a maximum width of 40" and in gauges down to .000175". Coquillard's annual capacity for production of ALUMINUM FOIL is 20,000 tons, of which approximately 25% are converted and the balance supplied in the form of net metal. The converting operations include wax laminating, adhesive laminating, aniline printing, lacquering, coloring and Roto-gravure printing. The COQUILLARD Aluminum Works have a network of specialized agents throughout the world. More than one third of their annual production is exported.

For additional information, contact our U.S. Representatives:

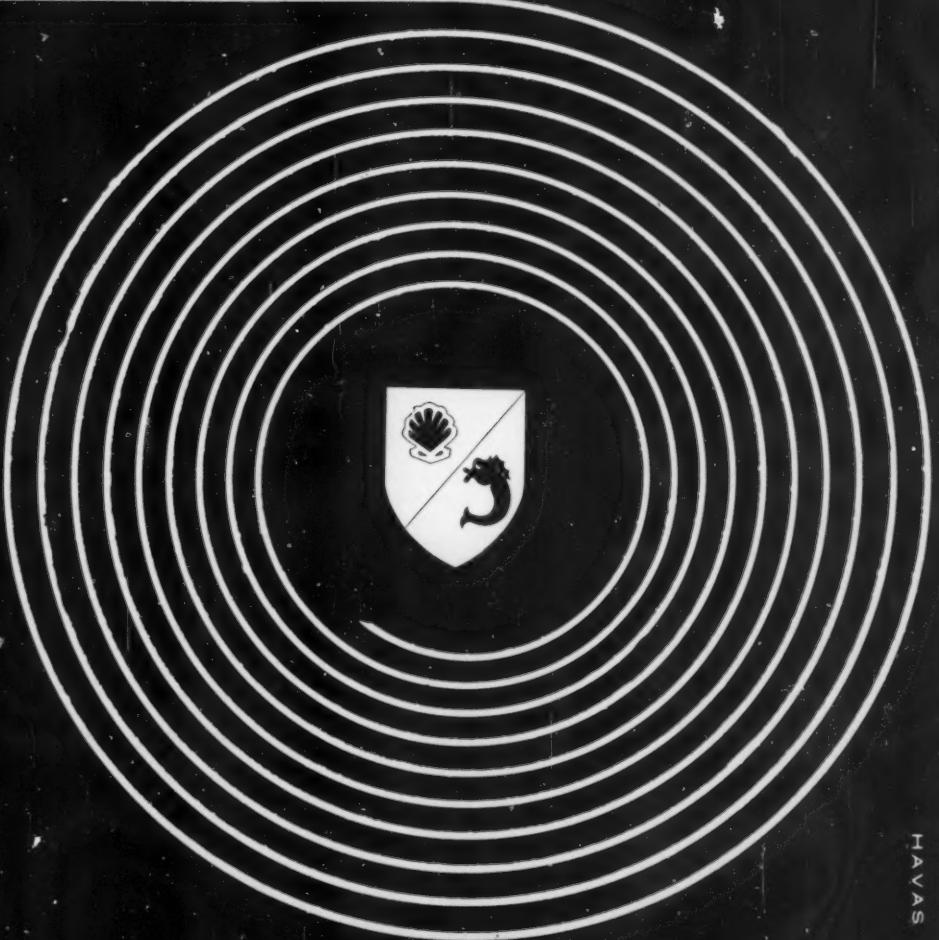
LECHNER PULP AND PAPER CO. INC.
1415 Queen Anne Road
Teaneck, New Jersey
Telephone TEaneck 7-9700



aluminium foil



SPECIALISED AGENTS THROUGHOUT THE WORLD



HAVAS

Plants & People

[Continued from page 159]

and in Louisville, Ky. He comes to Reynolds from Olin Mathieson Chemical Corp., New York.

The Borden Chemical Co., div. The Borden Co., New York, is now operating a new research center in Springfield, Ore.—the company's 20th in this country. Work at the new laboratory will be devoted chiefly to the development of adhesives and synthetic resins.

G. Kenneth Chambers has been named product mgr., foil and packaging tapes, Permacel, New Brunswick, N.J.



Swanson Melvin A. Swanson moves up to the post of mgr. of the Food Packaging Div., Rap-In-Wax Co., Minneapolis. His duties include sales, new-product development and research in packaging. Mr. Swanson joined Rap-In-Wax last year, after serving 12 years with KVP-Sutherland.

He succeeds Walter R. Freeman, who has moved to his home in Denver, in which city he will open a new Rap-In-Wax sales office.

The Champion Paper & Fibre Co., Hamilton, O., has named George W. Gard special asst. to the v.p.-group exec. in its Special Products Div. The div. provides leadership for Champion's subsidiary operations and is responsible for liaison with the company's affiliates. Mr. Gard is succeeded as gen. mgr. of the Mid-West-Pak and Crown Plastic Cup subs. by David T. McLaughlin.

Harrison C. Bristoll, v.p. of The Stanley Works, New Britain, Conn., and gen. mgr. of the Stanley Steel Strapping div., has retired. He has been succeeded by Donald W. Davis.

Package Machinery Co., East Longmeadow, Mass., is expanding its worldwide operations via the establishment of a dept. of foreign operations. **John M. Chalfant**, formerly staff sales mgr., is in charge of the new dept. He will be responsible for the expansion and coordination of overseas activities for the supplier's foreign sales agents and manufacturing licensees.



Becker Morris J. Becker becomes sales mgr. for the beverage-container div. of Thatcher Glass Mfg. Co., New York. Prior to joining Thatcher, Mr. Becker was publisher and editor of *National Bottlers' Gazette*, a publication of the beverage industry. He served with the publication for nearly 30 years.

Plans are being made to double the capacity of the Richmond, Va., polyethylene-film plant operated by **E. I. du Pont de Nemours, Inc.**, Wilmington, Del. Plant expansion, to be com-

pleted next year, reportedly will give the facility an annual production capacity of 60 million pounds of film.

A glass-container plant in Rosemount, Minn., has been opened by Brockway Glass Co., Brockway, Pa. The new plant is reported to include a number of improvements in container manufacturing techniques.

Mead Packaging, Atlanta, div. The Mead Corp., has named four new district mgrs. in its Eastern sales region. **Robert L. Land** will supervise folding-carton sales in Metropolitan New York, northern New Jersey and parts of New York State and Connecticut. **William T. Blair** will manage sales of soft-drink cartons, beer carriers and other items in New England, northern New Jersey and New York State. **A. W. Hartigan** manages Mead product sales in southern New Jersey, Pennsylvania, Maryland, Delaware and West Virginia. **A. U. Salomon** is responsible for soft-drink cartons and other units in Virginia, Maryland and Delaware.

J. Thomas Selldorff, group supervisor of applications for The Kordite Co.,



Macedon, N.Y., div. National Distillers & Chemical Corp., has been named product mgr. of polypropylene film for Shorko, Ltd. Shorko is an international company equally owned by National Distillers and Royal Dutch/Shell. The firm produces and markets plastic films and other packaging materials outside the U.S. and Canada. Mr. Selldorff will develop foreign markets and applications for oriented polypropylene film. He is co-author of a recent MODERN PACKAGING technical article. (See "Bioriented Polypropylene Film," Aug., 1961, p. 133.)

Package Research & Development International, Paris, is a new packaging-consultant firm staffed with French and American consultants. Formed in cooperation with the French Packaging Institute, the new company reportedly specializes in all problems related to packaging and in scientific determination of the criteria for the selection and evaluation of packages. It is headed up by **Pierre J. Louis**, director, and **Emanuel Nadler**.

William Stark is new director of art and packaging for the consumer-products div. of Kimberly-Clark Corp., Neenah, Wis. The company manufactures a broad line of paper products, including Kleenex facial tissues.

New v.p. for operations of **Knox Glass, Inc.**, Knox, Pa., is **Lambert M. Kasper**, formerly asst. gen. mgr.

A. M. Steigerwald Co., Chicago manufacturer of labels and tags, has moved from 910 W. Van Buren St. to larger quarters at 1440 W. Wrightwood Ave.

Shawinigan Resins Corp., Springfield, Mass., is constructing a \$500,000 office building at its headquarters. Scheduled

for completion in mid-1962, the building will contain Shawinigan's executive offices and several staff offices.

The Plastics Div., Hydrocarbon Chemicals Inc., New York, has opened a new, fully automatic plastic-container plant in Los Angeles. **Sam Melcher**, formerly with Revell, Inc., is gen. manager.

Morningstar-Paisley, Inc., New York, has elected **David Bookshester** v.p. of adhesive sales. Mr. Bookshester, who previously was sales mgr. of the Adhesives Div., will be responsible for the over-all marketing of adhesives and related chemical products.

Selwyn C. Multer has been appointed director of marketing for **Associated Industrial Designers**, a div. of Design For Selling, Inc., New York. He will direct marketing evaluation studies and packaging research performed by the firm for its clients.

Central Paper Co., Menasha, Wis., manufacturer of water-moistened gummed tapes and other converted paper products, has purchased the Touchdown Corp., Chicago. Touchdown manufactures pressure-sensitive tapes.

Tennessee River Pulp & Paper Co., New York, and its parent company, Packaging Corp. of America, Evanston, Ill., have announced the completion of a \$41 million kraft linerboard mill at Counce, Tenn.

Lord Baltimore Press, New York, is planning to construct a new folding-box plant in Cincinnati. To be completed in 1962, the plant will comprise over 150,000 sq. ft.

Inpak Systems, Inc., New York, has announced a new service designed to offer packaging management integrated consultation in three major areas: materials selection, market-oriented packaging concepts and special machinery.



Lehn & Fink Products Corp., Bloomfield, N.J., packager of toiletries and household chemical products, has named **Joseph F. Hanlon** to become mgr. of packaging engineering. He will be responsible for coordinating package development functions for the company's mfg. dept.

Prior to joining Lehn & Fink, Mr. Hanlon was mgr. of package development for American Cyanamid Co.

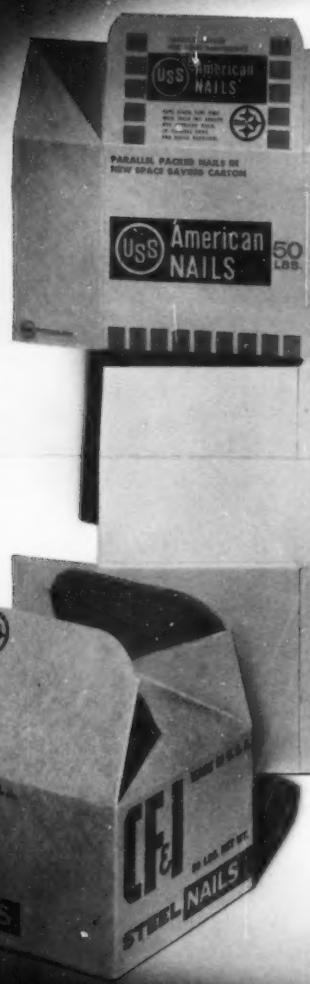
Gilman Paper Co., New York, and its subs. have moved from 630 Fifth Ave. to the Time & Life Building, 111 W. 50 St., New York 20.

New officers have been elected by **R-W Paper Co.**, Longview, Wash., mfr. of glassine and greaseproof packaging papers. They are: **Robert E. Harper**, v.p.-gen. mgr.; **Harry A. Hayward**, v.p., sales, and **Gareth E. Rouse**, treasurer.

Thomas F. Mahoney is the new Government sales rep. for **Metal Edge Industries**, Barrington, N.J. His base of

**WHAT'S
INSIDE..?**





Mead's New Automation Packaging

Called Meadomatic, Mead's exciting, new packaging system streamlines specially tailored corrugated containers and special forming and closing machinery into fast-moving, automatic packaging systems.

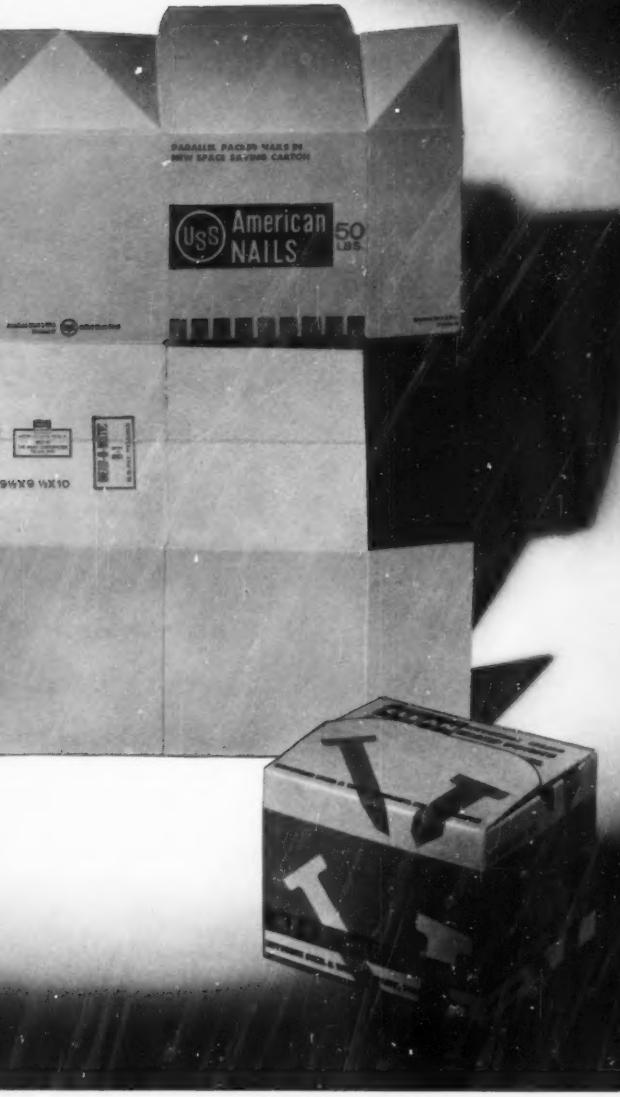
Meadomatic already has revolutionized the packaging of nails... at lower costs!

The one-piece Meadomatic corrugated containers, shown above, with their triple bottoms, double

MEAD CONTAINERS • Executive Offices, Cl

Mead Bonded corrugated shipping containers, solid fibre and corr

Offset Lithography on ME



Packaging System Cuts Lines and Slashes Costs!

... walls, and re-closable tops, were engineered especially for the nail and fastener industries.

But what is most important to you is that Mead's spectacular Meadowation system also might be tailored into your packaging operations, resulting in greater efficiency and lower packaging costs. *Mail the enclosed card so we can send you our special Meadowation brochure... showing how this new system might serve you.*

Cincinnati 12, Ohio • Division of THE MEAD CORPORATION

Containers, partitions, solid fibre containers, film and foil lined
and corrugated display stands, packaging systems.

on MEADBRITE TEXT, Sprinkle Finish, 80 lb.

ENVELOPE

EMPTY?

If the envelope on the other side of this insert is empty, some other interested reader of Modern Packaging has beaten you to the exciting message about Mead Containers' MEADOMATION Packaging System—an automated system designed to increase packaging efficiency and lower packaging costs. Write for your personal copy of our MEADOMATION brochure—Advertising Department, Mead Containers, Dayton 2, Ohio.

Corrugated shipping container plants & sales offices

CHICAGO • CINCINNATI • DURHAM, N. C. • MIAMI • MEMPHIS • TOLEDO • FLINT • FT. SMITH,
ARKANSAS • ATLANTA • SYRACUSE • YORK, PA. • LOUISVILLE • MILWAUKEE • GRAND RAPIDS
• GARDNER, MASS. • BALTIMORE • NORTH BERGEN, N. J. • ELIZABETH, N. J. • NEW YORK • DETROIT

MEAD CONTAINERS • Executive Offices, Cincinnati, Ohio

a Division of THE MEAD CORPORATION . . . the moving force in Paper and Packaging

MEAD
containers

Plants & People [Cont'd]

operations will be at Washington, D.C., where he will act as liaison between the packaging supplier company and central Government agencies.

A pilot plant for the consolidation of long-range developmental manufacturing activities is being constructed at Neenah, Wis., by Marathon, Div. American Can Co., Menasha, Wis. The building will house laboratories as well as small-scale production machinery. It is scheduled for occupancy in the latter part of this year.

Robert B. Rohrer, associate research director of Armstrong Cork Co.,



Rohrer Hazeltine

Lancaster, Pa., has retired. He served 44 years with the company and since 1959 had shared (with research director F. B. Menger) the responsibility for administration

of the Armstrong Research & Development Center. J. E. Hazeltine, Jr., becomes asst. director



Sharf Bramlett

of research. He has been with the company since 1937 and formerly was asst. director of divisional research. Dr. John M. Sharf becomes tech. asst. to the director of research, a newly created position.

He is succeeded as gen. mgr. of packaging-materials research by W. P. Bramlett, Jr. Dr. Sharf joined Armstrong in 1942; Mr. Bramlett in 1943.

A new administration and research building is being constructed in Bloomfield, Conn., by Emhart Mfg. Co., Hartford. It will house research, development and engineering projects for automated glass-making machinery, packaging machinery and industrial press equipment. Emhart also has opened a Canadian operation in Toronto, the Emhart Export Co. The new organization will provide sales assistance, engineering and installation services for some Emhart equipment.

A multi-million-dollar plant at Elizabeth, N.J., has been opened by the General Chemical Div., Allied Chemical Corp., New York. It is producing Genetron fluorinated hydrocarbon refrigerants and aerosol propellants, and has a reported capacity of 10,000 tons per year.

First Carton Corp., Clinton, Miss., and First Packaging Corp., Yazoo City, Miss., have had their names changed to, respectively, Southern Carton Corp. and Southern Bag Corp. The companies were recently acquired by the Consolidated Paper Co., Monroe, [Continued on page 168]

this CAP means business

Wherever you look
Wheeling shapes the caps
that shape the market

The people at Wheeling specialize in plastic caps and fitments and dependable metal fold-up tubes. The Avon cap illustrated is injection molded of polypropylene material.

WHEELING STAMPING CO.
WHEELING W. VA.

Ask your WS salesman about your cap and tube requirements, or call collect: CRestview 7-3000.

New York, N. Y.
Lackawanna 4-9715

Chicago, Ill.
Palisades 5-3020

Cleveland, Ohio
Academy 6-5757

Cincinnati, Ohio
Parkway 1-5736

St. Louis, Mo.
Parkview 7-7380

Los Angeles, Calif.
Pleasant 2-0791

GOOD GOOD CANNED GOODS



BEST BUYS

Oysters in August. Lobster in Iowa. Pineapple in Maine. Coffee, tea or milk? Every food forever in season. Delicious. Nutritious. Staples. Exotics. Thousands of food items. Things to eat and to drink. Products to use. A world of good living in a time-saving, taste-saving, work-saving, cent-saving sturdy steel tin can.

Youngstown  growing force in steel

A growing source of tin plate for America's canning industry • The Youngstown Sheet and Tube Company, Youngstown, Ohio



PROMOTE

Youngstown joins NARGUS-POST
retail grocery promotion to
build canned goods volume at
the point of sale

From October 5 thru 14, 112,000 stores of the National Association of Retail Grocers of the United States will feature Youngstown point-of-sale material on canned goods. The October 7 issue of The Saturday Evening Post will carry the Youngstown advertisement (left) promoting canned goods to more than 30,000,000 readers.

The net result: greater canned goods volume—more sales right off the grocer's shelf. Participation by Youngstown in this nationwide retail grocery promotion is a historic first for basic steel producers. And it is another step in Youngstown's continuing efforts to support consumer preference for the safety, convenience and goodness packaged in the light, strong and modern tin can.



Youngstown — growing force in steel

ALL-AMERICAN BRANDS
SPECTACULAR
POINT OF SALE MATERIAL
OCTOBER 5-14TH

For full details on Youngstown tin plate, write to: Department 17E
The Youngstown Sheet and Tube Company, Youngstown, Ohio

Mark and Decorate your Products with **KENSOL**

HOT STAMPING EQUIPMENT

Kensol Presses are available in three pressure ranges: Light-Weight ($\frac{1}{2}$ ton), Medium-Weight ($3\frac{1}{2}$ ton), and Heavy-Duty (4-7 ton).

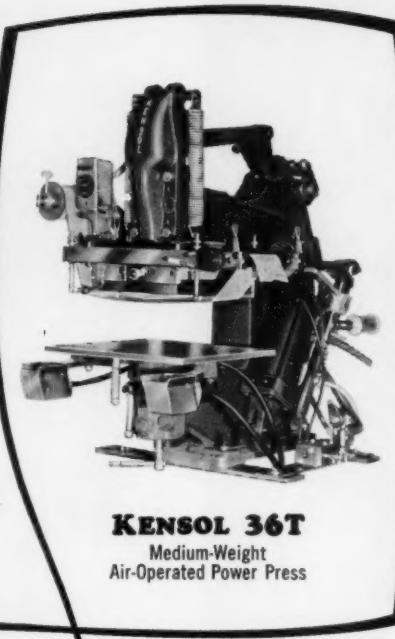
A model can be supplied to meet any production requirements: Hand-operated, Air-operated, Semi-automatic, and Completely automatic.

Compressed air-operation, adjustable electric dwell-timer, thermostatic heat control, and rugged construction are a few of the features which assure quality marking.

Write for complete literature!

KENSOL-OLSENMARK, INC.
124-132 White St. • New York 13, N. Y.

Specialists in Quality Marking Equipment
and Supplies for over 30 years



Plants & People

[Continued from page 165]

Mich., and Crandon Paper Mills, Fort Madison, Ia. The companies also jointly own Southern Container Corp., located in Houston, Miss.

Bagphane Corp., New York, has acquired the transparent-film div. of Whiting-Patterson Co., Philadelphia. Bagphane is a designer, printer and converter of films, foils and papers.



James H. Buell has been promoted to the post of v.p. and gen. mgr. of the Mechanical Div. of Doughboy Industries, Inc., New Richmond, Wis. He succeeds E. R. Livingston, temporarily retired because of ill health. The company's Mechanical Div. manufactures packaging machinery and conveyor equipment. Mr. Buell has been with company since 1955 and most recently served as budget director and controller.

Steele J. Elmi has been named chief aerosol chemist by A. Schrader's Son, div. Scovill Mfg. Co., Brooklyn. The company is a mfr. of aerosol valves. Mr. Elmi will coordinate pre-production testing of valves and customer formulations as well as end-product shelf life.

Philip Carlton, formerly sales mgr., Caral Packaging Machinery Co., Albany, Calif., has resigned to join the customer-survey dept. of The George May Co., business-engineer firm.

Air Formed Products Corp., Nashua, N.H. sub. Bemis Bro. Bag Co., St. Louis, has expanded its facilities for custom blow molding of low- and high-density polyethylene. The company also offers a line of stock polyethylene bottles, from 500 cc. to five gallons.

Russell L. Robins becomes director of packaging and premiums, Standard Plastic Products, Plainfield, N.J. He will head up a new div. performing electronic sealing, silk-screen printing and pressure- and vacuum-forming of various products. Offices of the new div. are at 112 W. 34 St., New York.

St. Regis Paper Co., New York, appoints William E. Marks as mgr. of the box-tape div. of its Gummed Products Co. div., Troy, O.

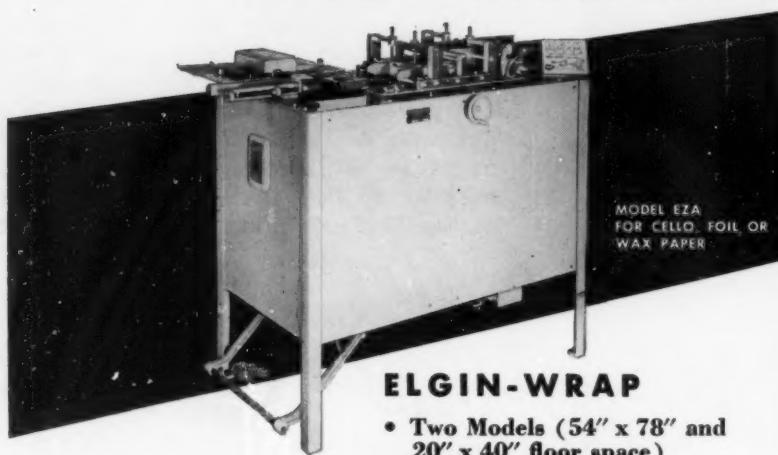
Warren Weinberg, pres. of J-E Plastics Mfg. Corp., Yonkers, N. Y., has assumed the duties of chief exec. officer of the company upon the resignation of Herbert Magness, board chairman. Mr. Magness has acted in an advisory capacity since late 1960 and will continue as a consultant. Mr. Weinberg joined J-E in 1951. J-E is a producer of semi-rigid plastic containers.

Cawley-Neff Associates, Philadelphia, has named Richard W. Moore v.p. to head its new merchandising and promotional services div. Mr. Moore pre-

[Continued on page 174]



**NOW! economical
wrapping**
FOR LIMITED PRODUCTION DEMANDS



ELGIN-WRAP

- Two Models (54" x 78" and 20' x 40" floor space)
- Semi-Automatic
- Fully, Simply Adjustable

- Handles Variety of Films, Wax papers or foil • Motor Driven
- Convenient Foot Treadle Control • Includes Working Table

Write today for complete specifications and low prices

ELGIN MANUFACTURING COMPANY

200 BROOK STREET, ELGIN 2, ILLINOIS

SPECIALISTS IN PRECISION PACKAGING EQUIPMENT FOR MORE THAN 60 YEARS



MASTERPIECES IN METAL CONTAINERS



17th century German pillbox, from private collection

new from Clark

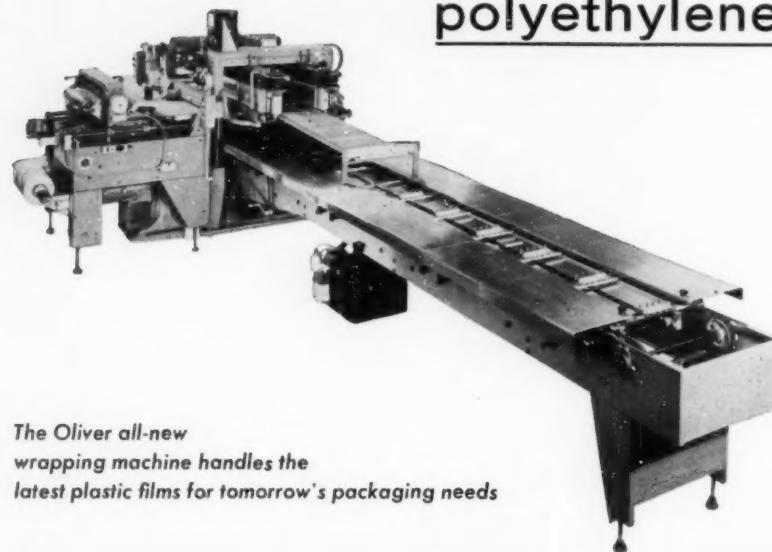
This beautifully designed physicians' sample container, produced by Clark for Eli Lilly, makes an interesting contrast to the old pillbox in our illustration. The lithographed, embossed capsule design on its slide cover has a functional as well as a decorative use, since you push it to slide open the container. Precision embossed lithography of this type is a specialty at J. L. Clark.

For more than half a century, consumers have been purchasing drugs, pharmaceuticals, and other products packaged in Clark metal containers. In fact, there is hardly a person in the country who is not familiar with Clark's functional, attractive metal cans, and the famous brand names colorfully lithographed on them. The packaging industry has made amazing progress—new materials, new structures, new closures. But there is one packaging principle that has never changed . . . when you want maximum product protection, combined with the ultimate in color reproduction of your design, there is still only one type of packaging that meets the requirement—lithographed metal containers. And your best source of supply is still . . .

J. L. CLARK
ROCKFORD, ILLINOIS



OLIVER announces the all-new variety wrapping machine for handling polyethylene



The Oliver all-new
wrapping machine handles the
latest plastic films for tomorrow's packaging needs

Plan now to wrap your products in polyethylene — or any other of tomorrow's soft, plastic films — with its many advantages of extra protection and economy. This *all-new* versatile machine also handles cellophane, waxed paper and heat sealing foils. A change of films requires a simple electronic heat adjustment. The Oliver embodies the latest engineering developments . . .

1. The Oliver uses ordinary polyethylene — plain or printed, high, medium, low density of 1 mil and up.
2. It is versatile. You can make a complete change for package size quickly.
3. The vacuum sheet-feed belt assures positive film feed without distortion.
4. A roll-type labeler can heat-seal an attractive label to top surface of package.
5. Wrapping film can be made as snug or loose around products as desired.
6. Choose from two types of bottom and end seals: overall or narrow line seal.
7. Oliver thermostatic system holds the sealing temperature within close limits. The cooling system assures heat-removal for strong, positive seals.
8. Can be furnished with vacuum-type feeder for flat cards and U-boards fed to infeed flights. Photo-electric eye available.

Choose the model that best fits your needs. Write today for all the facts.

OLIVER MACHINERY COMPANY
GRAND RAPIDS 2, MICHIGAN

NOW available from WILSOLITE...

"NO-SCUM RUBBER"

It is no longer necessary to clean and scrub out mats . . .

GOODFYEAR has definitely discovered Buna N Rubber that *does not build-up, is non-scumming!* Ask your Wilsolite Technical Service representative for details on this latest, most important discovery . . . **GOODFYEAR** printing plate material that will save you time, save you money, give you best results.



WILSOLITE

C O R P O R A T I O N
1627 Niagara Street, Buffalo 7, New York

WAREHOUSES AND SERVICE COAST TO COAST AND CANADA

YOU CAN
SENSE
THE VALUE
OF THIS
Du Barry
GIFT SET

... AND OF THE
Dennison
SET-UP BOX THAT
ENHANCES ITS APPEAL

DuBarry knows how to create cosmetic gift sets that capture the hearts of thoughtful givers. In this Royal Lipstick and Cloudsilk twosome, they knew they had another winner. How right they were! In its Dennison set-up box, it sold out fast.

Upgrading the value of popular gifts has been a Dennison specialty since 1844. So, it's not surprising that this gold and white, satin-lined, swivel-top box combines point-of-purchase impact and take-home appeal so effectively . . . and economically.

Ask for design suggestions and price quotations on your next run of set-up boxes. You'll learn that Dennison's unique combination of creative craftsmanship and automated production will bring you unmatched richness-per-penny. Try us and see!

Write: Dennison — Box Division,
Marlboro, Massachusetts

Dennison

HELPING YOU COMPETE MORE EFFECTIVELY



NEW!

FOR AUTOMATICALLY
APPLYING PRESSURE SENSITIVE
TICKETS OR LABELS TO ANY
TYPE PACKAGE

AMSCOMATIC *Mobile* TICKETER- LABELER



Ideally suited for automatic feed on most

- 1 Automatic wrapping machines**
- 2 Production-line bag packaging set-ups**
- 3 Conveyor-fed assembly-line operations**

Can also be used for simple manual-feed operation.



For marking or imprinting blank tickets or labels, a Soabar marking machine is incorporated in the Amsomatic 300 to combine imprinting and applying tickets or labels automatically.

Ticket or Label Specifications:

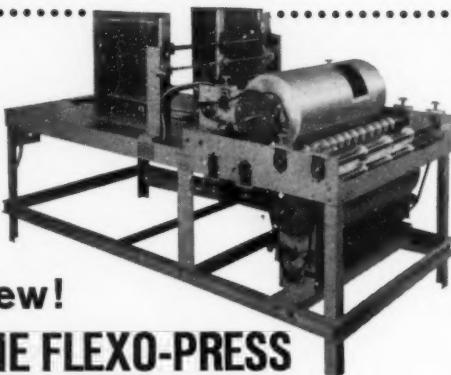
- Pressure sensitive tickets or labels in roll form, either permanent or removable type.
- Standard ticket or label sizes $\frac{3}{4}$ " to 3" wide. Length $\frac{1}{2}$ " to 2" high. (Other ranges available.)



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New!

IME FLEXO-PRESS imprints knockdown cartons, multi-wall bags

- ★ Up to 3600 an hour
- ★ Can also be used for continuous imprinting of web or sheet-fed material
- ★ Handles any size
- ★ Imprints top, bottom, sides in one pass
- ★ Quality impression every time

New IME Flexopresses code, date, trade-mark and price in one step . . . handle knockdown cartons and multi-wall bags of any size . . . mark as many as 3600 an hour.

You get a sharp, instant-drying impression on burlap, foil, kraft, virtually every material. And thanks to an IME-developed inking system, you simply pour ink into open fountain to refill. No machine shut-downs, no messy clean-up.

Whatever your marking needs, IME either has, or can help you develop a machine to handle them. Write Industrial Marking Equipment Company, Inc., Dept. MP.

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655 BERRIMAN ST. | company, inc.
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AUTOMATIC PACKAGER. Brochure illustrates a complete automatic packaging system for shrink wrapping trayed produce. Requires a minimum of floor space, wraps, seals, and delivers twenty-four packages per minute. Formatron, Inc. (160-1)

TESTING INSTRUMENTS. Twenty-eight-page illustrated bulletin lists optical and physical test instruments for testing paint, paper, plastics and other materials. Bulletin gives specifications and prices. Gardner Laboratory, Inc. (161-1)

CUSTOM-MADE CORRUGATED BOXES. Illustrated folder describes components for a box-making system that permits you to make corrugated boxes in your plant as you need them. System includes box-maker, slitter-scoring, and taper. Colt Packaging Machinery Co. (156-1)

FROZEN FOOD SHIPPING AND STORAGE CONTAINERS. Ten-page reference file describes shipping containers which will hold 1500 lbs. of food at freezing temperatures for hours without refrigeration or dry ice. Reference file gives data and shows application for transporting frozen food between wholesalers and retailers. Avco Corp. (153-1)

Any of the booklets described here, plus many others are available for the asking, without charge or obligation.

Just turn to the Manufacturers' Literature Section in this issue (pages 225, 226), circle the numbers corresponding to the booklets you want, fill in the reply postcard, and mail. No postage needed.

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The intriguing flavors of Knorr—Europe's best selling soups—have been brought to this country. When Best Foods Division Corn Products Company decided to produce Knorr for the American mass market, they asked Forbes to create packaging that would fully protect the delicate seasoning and would reflect the superior quality and European character of the product.

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Concept, design and production of both pouches and cartons are by Forbes, creators and producers of fine printing for 100 years.

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READY TO SERVE IN MINUTES

Knorr
SWISS RECIPE SOUP MIX

chicken noodle soup



Plants & People

[Continued from page 168]

viously was an account exec. at Mel Richman Associates, Bala Cynwyd, Pa. Cawley-Neff specializes in package design and corporate identity.

The General Chemical Div. of Allied Chemical Corp., New York, has acquired a site near Pottsville, Pa., for its first commercial plastic-film plant. Initial products to be produced will be "Aclar" fluorohalocarbon and "Capran" polyamide films. Both are specialty films currently in pilot production.

Lermer Plastics, Inc., Garwood, N. J., has added a new division that will manufacture flexible acetate containers of varying length and in diameters of $\frac{1}{4}$ through $\frac{1}{2}$ inch.

Ground has been broken in Sacramento, Calif., for a new pulp molding plant being erected by Keyes Fibre Co., Waterville, Me. The plant, scheduled for completion in 1962, will manufacture molded paper products for the food and allied industries.

Kamlar Products Co., Norwood, Mass., has changed its name to Kamweld Products Co. The use of Kamlar as a trade name has also been discontinued and is replaced by Kamweld. The firm manufactures welding equipment and high-speed tools for such thermoplastics as polyethylene, polypropylene, polyvinyl chloride and plasticized linings.

Shaw-Randall Co., Pawtucket, R. I., one of the early developers of blister packaging, has been appointed by Downingtown Paper Co., Downingtown, Pa., to produce "Stretch Packages" in the New England area on a contract basis.

Foils Packaging Corp., Cincinnati, has moved from 307 E. Fourth St. to 602 Terrace Hilton Bldg. The company says the move was dictated by its plans for nation-wide marketing in major segments of the food industry.

Dave Chapman, Inc., Chicago, industrial design firm, has moved from 420 N. Michigan Ave. to 35 E. Wacker Dr.

Stecher-Traung Lithograph Corp., Rochester, N. Y., has added a folding-carton manufacturing facility to its Western Div. operation. Max G. Wesley, who has spent 15 years with Lord Baltimore Press, New York, and four years with Atlanta Paper Box Co., Atlanta, will manage the new operation.

Irving Fischer has been appointed mgr. of the newly expanded Mid-Atlantic Div. of National Starch & Chemical Corp., New York. He succeeds the late Jack Snyder. Mr. Fischer will make his headquarters in Philadelphia.

Field Paper Box Co. has moved to a new and larger plant at Elks Grove Village, Ill. According to the company, the new headquarters facility is designed to increase and enhance production capacity and techniques.

Diamond National Corp., New York, is building a molded-pulp plant in Elsfleth, West Germany. It will be operated by Omni-Pac, West German sub. of Diamond National. Dr. H. G. Brandes has been named gen. mgr. of Omni-Pac and will be responsible for operations of the new plant.

Charter Industries, Inc., is the new name of the former Blavin Industries, Inc., manufacturer of plastics machinery and molded products. The company will operate as before under the same management, at New Brunswick, N.J.

Promotions

J. A. Crowley: to beverage-industries sales mgr.; Thomas R. Francis: to drug- and chemical-industries sales mgr., and R. J. Reynolds: to food-industries sales mgr., all Eastern region, Glass Container Div., Owens-Illinois Glass Co., Toledo.

Dale S. Hodges: to field sales mgr., Industrial Packaging Dept., American Viscose Corp., Philadelphia. The dept. makes and markets Avistrap, a rayon-cord strapping material.

Joseph B. Fine: to v.p. and mgr. Triangle Bag Co., sub. The Crossett Co., Covington, Ky. Clem Vogelsang: to sales mgr.

Vince Eppie: to paperboard sales mgr., Mills Group, Standard Packaging Corp., New York.

Myron E. Sills: to Eastern sales mgr., Kleen-Stik Products, Inc., Chicago. He will be located at the company's Eastern headquarters in New York.

Joseph M. Cahalan: to mktg. mgr., Cincinnati div., and asst. to the gen. sales mgr., Mead Board Sales, sub. The Mead Corp., Dayton, O. William C. LePage: to mgr., Cincinnati sales district. Russell R. Williams: to mgr., Chicago sales district.

Leroy Joseph: to asst. to the sales mgr., meat and vegetable-oil packaging, Marathon, Div. American Can Co., Menasha, Wis.

John R. McDermott: to Eastern product mgr., cap- and closure-sealing compounds, Dewey and Almy Chemical Div., W. R. Grace & Co., Cambridge, Mass. Joseph H. Reynolds, Jr.: to Eastern product mgr., can-sealing and industrial compounds.

J. B. Sickel and C. L. Goodwin: each to asst. sales mgr., International Paper Co., Southern Kraft Board Div., New York. Mr. Sickel will supervise sales activities in Chicago; Mr. Goodwin will be asst. sales mgr. in the New York office.

W. C. McGahee: to mgr., New York office, Pollock Paper Co., Dallas.

James P. McNicholas: to Central region sales mgr., Chicago, Container Div., Rheem Mfg. Co., New York. He succeeds A. W. Nides, recently named v.p.-mktg. for the Container Division.

Richard C. Hollander: to director of public relations, Stephen Lion, Inc., New York, package design.

Robert J. Kurtz: to v.p. and plant mgr., Unette Corp., Livingston, N.J. The firm is a contract packager.

Appointments

Calvin C. Baker: from Andmar Sales, Inc., film extruder, to exec. v.p., Bergen Packaging, Inc., Hackensack, N.J. Bergen is a manufacturer of polyethylene bags, drum liners and box liners.

F. M. Warden: to West Coast sales mgr., Tele-Sonic Packaging Corp., New York. Tele-Sonic makes semi-automatic bag-loading machinery.

Edward G. Brosnan: from Gibbs-Brower Co. to sales mgr., Dietz Machine Works, Philadelphia, manufacturer of paper-converting machinery.

Donald Noss: from Hinde & Dauch to Cleveland regional sales mgr., Consolidated Paper Co., Monroe, Mich.

E. S. Gabbard: from U. S. Printing & Lithographing to v.p. and sales mgr., Ira L. Henry Co., Watertown, Wis. The company makes set-up boxes, folding cartons and acetate containers.

Theodore Levitt: to member of the plans board, Lippincott & Margulies, Inc., New York industrial designer.

Len Fellows: to director of planning, Einson-Freeman Co., Long Island City, lithographer and display manufacturer.

Obituaries



Turner

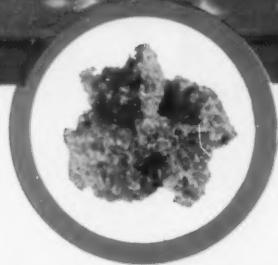
R. K. Turner, newly elected v.p. of Union Carbon Corp., New York, died suddenly at his home on July 18. He was 59. Mr. Turner had served with the company since 1924. He became v.p. of Union Carbide Plastics Co. in 1952 and was appointed pres. of that Union Carbide div. in 1957. In June of this year, he was elected v.p. of the parent company. Mr. Turner was a member of the American Institute of Chemical Engineers.

Roy W. Jiannott, package-development mgr. of Burroughs Wellcome & Co., Tuckahoe, N.Y., died on June 21. Mr. Jiannott, 46, had served the pharmaceutical firm for 22 years.

Ralph B. Bagby, exec. of Triangle Package Machinery Co., Chicago, died recently of injuries received in an automobile accident. He was 68 years old. Mr. Bagby was founder of Bagby & Co., which was acquired by Triangle in 1951. He is reported to have developed a number of filling and closing machines, including the first high-speed cottage cheese packaging line and the first low-cost paper milk container filler. At the time of his death he was serving Triangle in an engineering and consulting capacity.

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"MOST USEFUL" MAGAZINE... chosen by more key men who make important buying decisions.

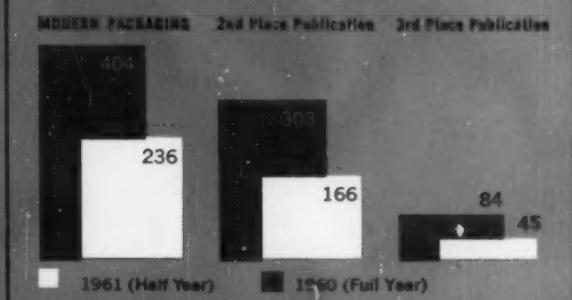
MAGAZINE VOTED "MOST USEFUL"

	MODERN PACKAGING	2nd Place Publication	3rd Place Publication
Company Officials	47%	6%	6%
Plant & Prod. Executives	34%	12%	3%
Purchasing Agents	39%	10%	10%
Res. & Dev. Engineers	46%	13%	—
Design Engineers, etc.	39%	14%	9%
Sales Managers, etc.	42%	8%	—
People who select, specify or purchase packaging machinery and equipment.	44%	14%	6%

Based upon an independent survey of 823 visitors at the 1960 AMA National Packaging Exposition

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EQUIPMENT & MATERIALS

[Continued from page 56]

food storage. The bags are also said to offer superior strength and flexibility—even at low temperatures—and an excellent surface for printing brand names. They are leakproof, can be heat-sealed and reportedly will not stain or result in fibre separation when exposed to room temperature. The company notes that several users have utilized a drawcord with the bag to facilitate comfortable carrying and easy reclosing. The bags are available with or without the drawcord, printed or unprinted, and fabricated for heat-sealed or twist-and-tie closures. *Bemis Bro. Bag Co., 111-H N. Fourth St., St. Louis 2.*

Pressure filler for semi-solid products

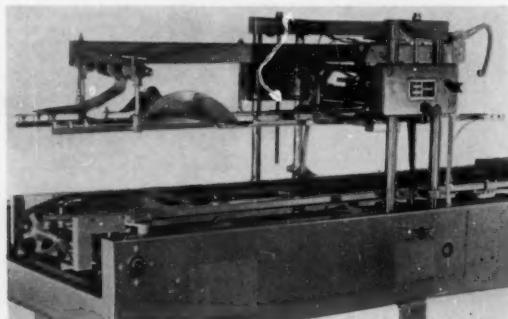
A Volumatic pressure filler for continuous filling of viscous and semi-solid products—such as salad dressings, peanut butter, wax, mustard and paints—has been introduced by Biner-Ellison. The unit is said to offer a wide range of speeds (up to 150 containers per minute) and to handle a variety of sizes and types of containers, including plastic. The filler, which is claimed to be ruggedly built and to include an oversize motor, is designed for integration into existing packaging lines. The unit is available with combination pressure and vacuum filling and will handle two dissimilar products simultaneously, the supplier notes. Equipped with variable-speed flow and fill-line adjustments, the filler offers “bottom-up” filling to eliminate air bubbles. Further details are available from *Biner-Ellison Machinery Co., 1101 N. Main St., Los Angeles 12.*

Molded dip tube

VCA is marketing a new molded dip tube which is a homogeneous part of the valve. The dip tube is manufactured to a tolerance of plus or minus 0.005 in. (The supplier notes that normal dip tubes are supplied with tolerances of plus or minus $\frac{1}{16}$ in.) The dip tube has a cross notch to insure against it being sealed off against the bottom of the container. Further details are available from *VCA, Inc., Bridgeport, Conn.*

New case gluer

Lower glue consumption, neater cases and simplified plant housekeeping are among the advantages cited for a new case gluer introduced by Emhart's Portland (Conn.) Div. The unit, designated SK-455, is said to eliminate the need

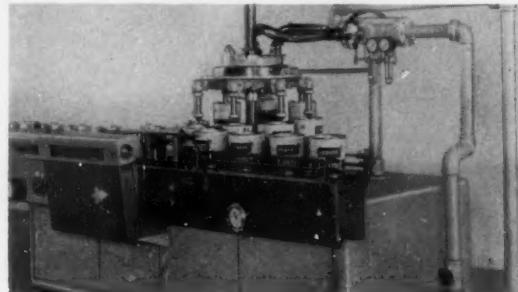


for glue pots and rollers. The gluer also is reported to economize on glue usage by applying it in uniform strips instead of in solid coatings. The supplier claims that tests have shown that the strips of glue set faster and offer equal sealing strength. Neater cases are the result of a case-controlled skip-gap pattern of application that prevents glue from dropping through the slots onto the product, says the firm. The area around and under the gluer is also said to remain much cleaner than with other types of equipment. The width and length of the glue pattern are pre-set and

then remain constant. Glue is exposed to the air only at the moment it is applied. When the unit is not in use the applicators rest on moist pads to prevent hardening—thus eliminating make-ready or set-up time. The unit is also automatically timed, the supplier notes. *Emhart Mfg. Co., Portland Div., Portland, Conn.*

Viscous-product filling unit

A new model of the Vari-Visco automatic filling machine, reported to be capable of filling more than 300 containers per minute, is available from Karl Kiefer Machine. The



unit, offered in 8- and 12-station models, accommodates viscous and heavily viscous products (such as shortening). Maximum container diameters that can be handled on the two models are 7 in. and $5\frac{1}{2}$ in., respectively. Fill is bottom-up. Among the improvements cited by the supplier is a worm timer on a “floating” mount for smoother container handling. A two-speed transmission in the drive to the center column permits machine operation without driving the pumps. This feature, says the supplier, greatly broadens the range of the machine. *The Karl Kiefer Machine Co., 924 Martin Pl., Cincinnati 2.*

Hinged polypropylene case

Navan Products, Inc. (invention marketing sub. of North American Aviation), has redesigned its Kudl-Pak case for packaging delicate instruments. (See “How Polyurethane-Foam Cushioning Cuts Cost 90%,” *MODERN PACKAGING*, July, 1959, p. 107.) The case is now injection molded in one piece of Eastman's Tenite polypropylene. Replacing the former brass hardware are an integral “living hinge” and a “flick-hasp” which was designed by Navan. Thus the case—complete with hinge and hasp—is now molded in a single operation at considerable saving, the supplier notes. As in the former style, the case is filled with convoluted polyurethane foam for cushioning. The foam cushioning is said to be capable of securely holding delicate instruments of nearly any shape or size. For complete details, contact *Navan Products, Inc., El Segundo, Calif.*

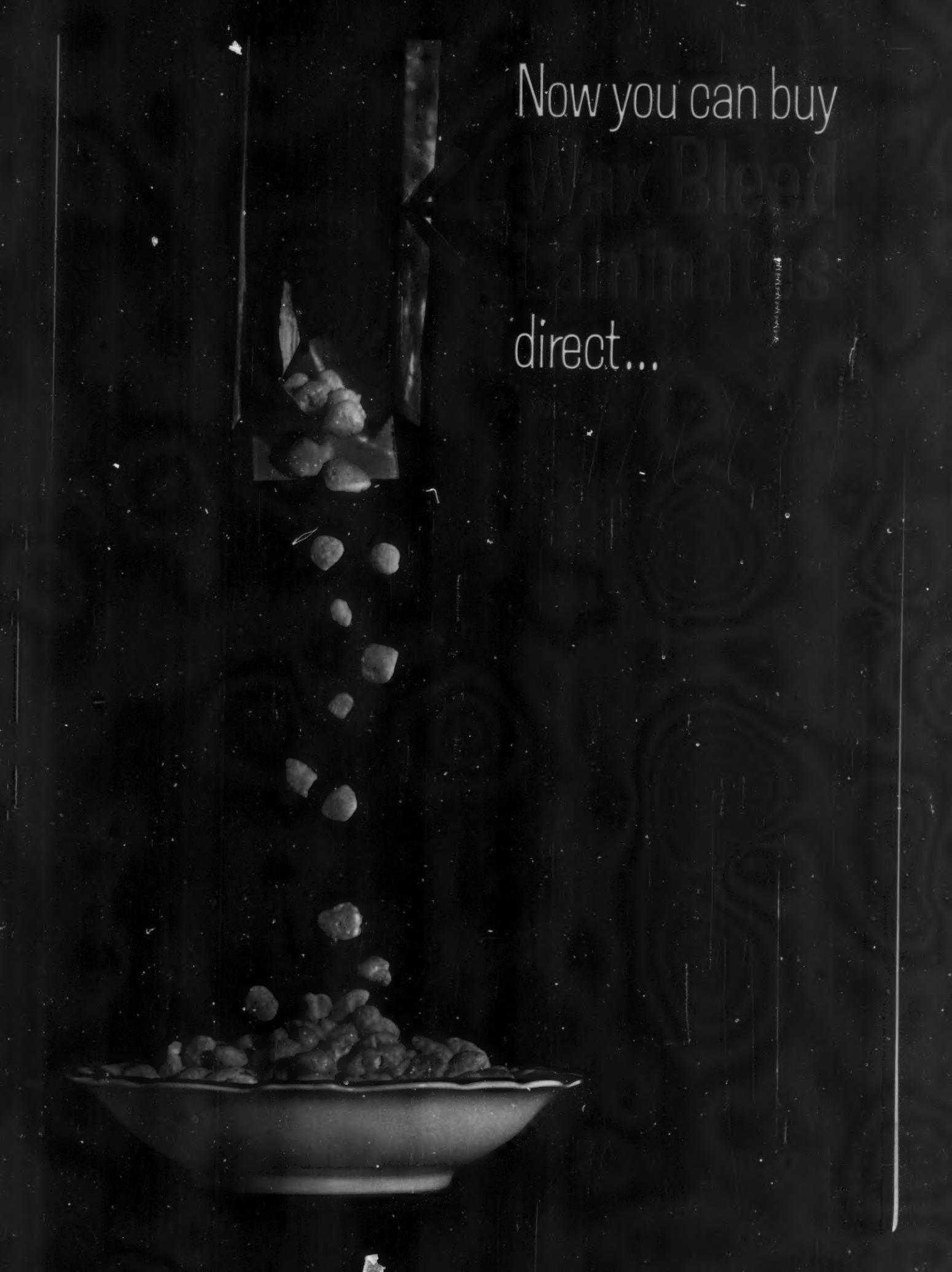
New polypropylene grades

Four new Escon polypropylene impact grades, said to combine excellent processability and low-temperature performance, have been introduced by Enjay Chemical. Designated Escon 205, 215, 223 and 233, the new resins are suggested for use in temperature applications requiring structural rigidity over a wide range. Escon 205 is a general-purpose impact grade that reportedly combines high flow (melt index 5.0) and impact strength for most specialty applications. Escon 215 possesses the same properties, the supplier notes, but is formulated using only food-grade additives. Escon 223 is cited as a general-purpose, high-impact grade formulated for applications requiring exceptional resistance to low-temperature impact. Escon 233 differs from 223 solely in that it contains only food-grade additives. The food-grade polypropylenes are said to be formulated only with

[Continued on page 182]

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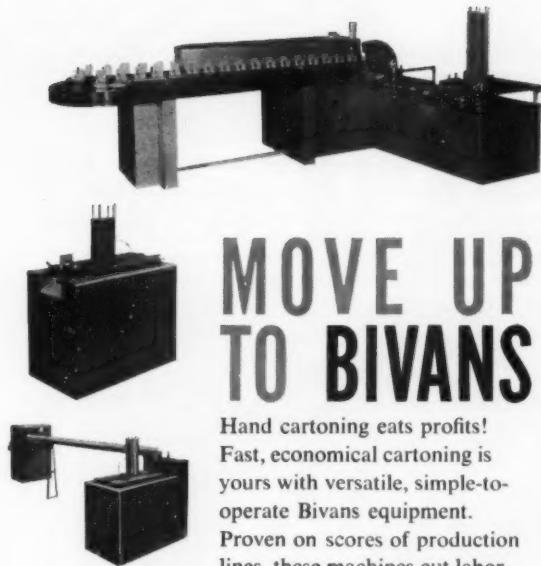
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CLEVELAND 13, OHIO.....	1450 Terminal Tower
COLUMBUS 15, OHIO.....	230 Bryson Bldg.
DALLAS 1, TEXAS.....	1900 Fidelity Union Tower
DAVENPORT, IOWA.....	601 Brady St.
DAYTON 5, OHIO.....	207 Northtown Arcade
DENVER 3, COLO.....	309 Moore Bldg.
DES MOINES 12, IOWA.....	3620 Ingersoll Ave.
DETROIT 2, MICH.....	610 New Center Bldg.
FLINT 2, MICH.....	510 Mott Foundation Bldg.
FORT WAYNE, IND.....	2924 South Calhoun St. Bldg.
GARDEN CITY, N.Y.....	1001 Franklin Ave.
GRAND RAPIDS 2, MICH.....	812 Michigan National Bank Bldg.
HARTFORD 5, CONN.....	1049 Asylum Ave.
HOUSTON 2, TEXAS.....	1310 Texas Eastern Bldg.
INDIANAPOLIS 7, IND.....	2939 North Meridian St.
JACKSON, MICH.....	310 National Bank Bldg.
KANSAS CITY 5, MO.....	2300 Power & Light Bldg.
LAFAYETTE, IND.....	P.O. Box 500
LIMA, OHIO.....	901 National Bank Bldg.
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LOUISVILLE 2, KY.....	1152 Starks Bldg.
LUBBOCK, TEXAS.....	203 Field Bldg.
MEMPHIS 17, TENN.....	4515 Poplar Ave.
MIAMI (HIALEAH), FLA.....	490 Hialeah Drive Bldg.
MILWAUKEE 3, WIS.....	2040 West Wisconsin Ave.
MINNEAPOLIS 24, MINN.....	4010 West 65th St.
NASHVILLE 12, TENN.....	235 Wilson-Bates Bldg.
NEWARK 2, N.J.....	744 Broad St.
NEW ORLEANS 12, LA.....	1225 Whitney Bldg.
NEW YORK 17, N.Y.....	230 Park Ave.
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OKLAHOMA CITY 3, OKLA.....	111 N.W. 23d St.
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PHOENIX 4, ARIZ.....	702 First National Bank Bldg.
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ST. LOUIS 8, MO.....	10th Floor, Continental Bldg.
SAN DIEGO 3, CALIF.....	2962 Fifth Ave.
SAN FRANCISCO 4, CALIF.....	2509 Equitable Life Bldg.
SEATTLE 1, WASH.....	1411 Fourth Ave. Bldg.
SOUTH BEND 1, IND.....	805 J.M.S. Bldg.
SPOKANE 1, WASH.....	610 Fidelity Bldg.
SPRINGFIELD 3, MASS.....	508 Tarbell-Watters Bldg.
SYRACUSE 1, N.Y.....	731 James St.
TAMPA 9, FLA.....	4302 Henderson Blvd.
TOLEDO 2, OHIO.....	350 W. Woodruff Ave.
WASHINGTON 6, D.C.....	1200 Ring Bldg.
WHITE PLAINS, N.Y.....	180 South Broadway
WICHITA 2, KAN.....	1010 Central Bldg.
WILMINGTON 1, DEL.....	825 Bank of Delaware Bldg.
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- Rollers made of steel for longer life.
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**CONSOLIDATED
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division of AMERICAN-MARIETTA CO.
311 East 12th Street, Charlotte, N.C.

Equipment & Materials [Cont'd from page 178]

materials known to be nontoxic and which are either approved for food-packaging uses or are covered by extensions. The resins are reported to have been granted approval by the U. S. Dept. of Agriculture for use in enclosing meat and meat-food products bearing the marks of Federal meat inspection. Final F&DA approval is said to be pending. *Enjay Chemical Co., Div. Humble Oil & Refining Co., 158 W. 51 St., New York 19.*

Laboratory heat sealer

A laboratory heat sealer for evaluating the sealing characteristics of packaging films has been introduced by United States Testing Co. The unit is claimed to test the seal characteristics of such films as cellophane and polyethylene under conditions encountered on high-speed machinery. It is suggested for use as a quality-control instrument and for determining optimum sealing conditions. It features adjustable and closely controlled sealing temperature, pressure and dwell time. *United States Testing Co., Hoboken, N. J.*

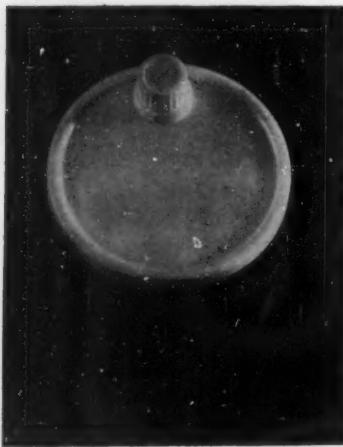
Clutch attachment for portable filler

A clutch attachment that reportedly will adapt any Filomatic portable filler for conveyor-line operation is being offered by National Instrument. The attachment must be factory installed and is available in maintained or momentary-contact types. With the maintained contact type, the liquid is dispensed with either a momentary or a maintained closure of the actuator switch. With the latter, the filler will dispense a single, preset volume of liquid each time the actuator switch is momentarily depressed. Further information is available from *National Instrument Co., 4119 Fordleigh Rd., Baltimore 15.*

Complete foam-in-place system

The Leal Corp. is making available a reportedly complete system for the utilization of the foam-in-place technique, using urethane foams. Called Pak-N-Foam, the system includes package-design consultation, automatic metering and dispensing equipment for foams, materials tailor-made for packaging and other services. The company reports that it is prepared to install complete systems—engineered to meet a customer's individual packaging requirements—and to provide appropriate materials and personnel. For further details, contact *Leal Corp., Oaklyn, N. J.*

Drip-proof can closure-dispenser



snapped on after the can end has been punctured or cut out. A venting system is said to keep the contents from surging and to allow the unit to be taken apart for cleaning. The supplier reports that it expects to design similar dispensing closures for glass jars. Now available in several

A re-usable plastic closure-dispenser suitable for canned syrups, juices, oils and the like, which is said to prevent dripping and dribbling down the can sides, is available from Siax Industries. Molded of DuPont's polyethylene resin, the three-piece dispensing closure has a cap to cover its spout when not in use. The Pour-N-Seal cap is

can sizes, the plastic lid is presently being used as a premium offer by a chocolate-syrup manufacturer. Further information and details are available from *Siax Industries, Inc., Newton Highlands, Mass.*

Versatile opening device for sewn bags

An easy-opening device that provides full-top or pour-spout opening of sewn open-mouth and sewn valve multiwall bags has been introduced by the Bag Div. of St. Regis Paper. Called Grip-N-Rip, it is designed for industrial and consumer bags used for agricultural, chemical, food and rock



products. Said to be fast, practical and low-cost, this easy-opening feature employs a triple-strength filter tape in place of the standard filter cord. The filter tape, sewn over



the regular bag-top tape, provides a pulling tab. It also improves bag appearance, the supplier notes. For full bag-top opening — required most commonly for industrial multiwall packages — the filter tape is simply pulled away from the top of the bag (see top illustration). The regular bag-top tape, which is held in place by the same thread, is then free, and the bag is completely open. For pour-spout opening (for consumer packages of lawn foods, seeds, dog foods, etc.), the regular bag-top tape is pasted along the top of the bag except for a few inches at one end to allow for limited opening. After the filter tape has been pulled away, the unglued section of the regular tape is folded back and the pour spout is formed (see bottom illustration). The tape can be folded back over the spout and clipped in place for storage of unused contents. *Bag Div., St. Regis Paper Co., 150 E. 42 St., New York 17.*

Polyethylene pouring spout

The Flo-Top, a polyethylene pouring spout for plastic and glass containers with a 28mm opening, has been introduced by the Multi-Meter Div. of Rieke Metal Products. Molded in red, the two-piece top is said to fit all 28mm bottles having a 400 or 414 trim. The top combines the features of a bottle cap with directional flow, a no-drip spout and an open-close control. A smooth, fast flow is said to be assured by a novel venting arrangement. Any remaining liquid can be resealed with a twist of the top. Molded of high-impact polyethylene, the top is reported to have excellent flexural strength and to be shatterproof at extremely low temperatures. Further details are available from the supplier. *Multi-Meter Div., Rieke Metal Products Corp., Toledo 12, Ohio.*

New acetate-container supplier

Flexible acetate containers are now being manufactured by a new division of Lermer Plastics. It is said to be the company's first venture into the field of such inexpensive containers for low-priced items. The new line is available in varying lengths that can be cut to the required sizes by the customer. Diameters range from $\frac{1}{4}$ to $1\frac{1}{4}$ in. The



Still **TOPS** in M.V.T. PROTECTION

THILCO

VAPOTITE



Keeps moisture-vapor in or out—
where wanted . . .

Is odorless, non-staining, clean,
pure and non-toxic . . .



Preserves food flavors and
freshness, longer . . .

Protects products from sticking,
sticking and blocking . . .



TAPE INC. — Packages its gummed roll tape in heavy-duty VAPOTITE bags to protect it from deterioration over extended periods of storage in distributors' warehouses and customer inventory. VAPOTITE's superior moisture vapor resistance preserves glue's proper consistency — safeguards against sticking and sticking at temperature extremes. One Tape Inc. customer reports perfect condition tape even after 6 years of "hidden storage" inventory.

KRAFT FOODS — Gelatin dessert is packaged in a VAPOTITE bag carton liner as the surest way to preserve the product's flavor and freshness and prevent granules from caking. VAPOTITE does not stain or offset, nor does any odor develop from it to permeate the package and damage the naturalness of Kraft's tasty flavors. Because it is sanitary, clean, and non-toxic, VAPOTITE is ideal for packaging food products of many different types.

WILLIAMS CANDY CO. — Of Oklahoma City uses economical VAPOTITE cart liners to preserve "factory freshness" of its bulk candies in storage. Hard candies and confections can be produced in "off seasons" and stored for later distribution without danger of sticking and blocking, or loss of sheen due to moisture-vapor penetration. The Williams Co. tested many packaging mediums but found none as effective in M.V.T. protection as VAPOTITE.

WHAT IS THILCO VAPOTITE?

VAPOTITE, as the name implies, is a wax laminated sheet with an exceptionally high M.V.T. rating. It combines two outer plies of closely formed quality kraft, glassine or grease-proof papers, each double-coated and laminated with special blends of micro-crystalline waxes. It has packaging strength and pliability which readily permit its conversion into spiral containers, case liners or small unit size bags without damage to wax film M.V.T. resistance. VAPOTITE is *economical, low in cost*, and can be furnished "tailor-made" to specific requirements in color or with eye-appealing print decorating, as desired.

Write — today for free
"Tell-all" kit and samples.
Tell us the nature of your
M.V.T. problem and let us
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recommendations.



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NEW YORK CHICAGO DETROIT BOSTON KANSASCITY CLEVELAND CINCINNATI CHARLOTTE

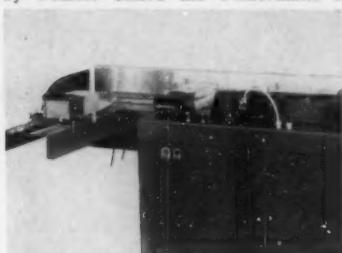
THILMANY PULP & PAPER COMPANY
KAUKAUNA • WISCONSIN

Equipment & Materials [Continued]

company previously has concentrated on the manufacture of rigid polystyrene and high-density polyethylene containers. *Lermer Plastics, Inc., 502 South Ave., Garwood, N. J.*

Portable bagging machine

A machine which seals cartoned products in pre-formed, tight-fitting bags at speeds of 10 to 30 per minute is offered by Pemco. Called the Pemcomatic Model 33, the unit



can accommodate packages ranging in size from 4 to 12 in. wide, 6 to 17 in. long and 1 to 8 in. high. All operations are automatic except for placement of the cartoned product in the bag.

After the filled, open bag is positioned against a back guide rail, fingers on a conveyor system carry the package to the folding-tucking and gluing stations, through a heated compression chamber and on to final delivery. The unit's enclosed gluing system is designed for automatic shut-off when sufficient adhesive has been applied to the bag's glue flap, to prevent over-gluing. Paper or thermoplastic-film bags can be handled. The compact machine is mounted on rubber-tired casters, for easy movement to any desired plant location. For additional data, contact *Pemco, Inc., Sheboygan, Wis.*

Filling, plugging, screw-capping machine

Chase Equipment introduces an automatic filling, plugging and screw-capping machine that is said to offer high production speeds. Designated Model 31SC, the unit is designed for sterile handling of ampoules, vials and plastic bottles with an hourly production rate of up to 3,500 units. The supplier notes that with simple change parts, the 31SC will fill and stopper ampoules and vials; fill and partially insert a stopper, or fill, plug and screw cap plastic squeeze bottles or glass bottles. Any one of the automatic stations may be used separately, or they may be used in combination. Required floor space is 24 by 45 in. *Chase Equipment Co., 47 E. 19 St., New York 3.*

Boil-in-pouch packaging unit

Circle Design offers a form-fill-seal pouch-packaging unit specifically designed for use by processors of prepared foods in boilable-film packages. The piston-feed machine, Model B-50, forms pouch packages up to 10 in. wide from roll stock. Pouch length can range upward from a minimum of 4 in., says the supplier. Packaging speed varies with the product and pouch size. According to the manufacturer, most foods can be packaged at 50 pouches per minute on a two-up arrangement. Open construction of the new unit is designed to facilitate cleaning and servicing. *Circle Design & Mfg. Corp., Emerson, N. J.*

Single-cycle polyethylene film packager

One single cycle for forming the package, feeding in the product and sealing the side and ends is claimed to be all that is required with a new film-packaging machine available from Pratt Manufacturing. Light, medium or heavy products may be handled in single or multiple packs, the company says. The items are packaged in polyethylene sheet film from rolls, in plain or shrink type, $\frac{1}{4}$ mil to 3 mil thickness. The standard Model PW is said to package products ranging in size from 5 to 6 in. long and 2 to 6 in. wide (or in diameter). The feed mechanism reportedly can be horizontal, uphill or downhill and the forming tube can be round, oval or flat. The supplier says that change-over time for size change is less than 10 minutes. The unit includes electric-eye registration for printed film or me-

chanically controlled package length for unprinted film. The machine measures 38 by 36 by 72 in. *Pratt Mfg. Corp., 3097 West Mill Road, Milwaukee 9.*

Cost-cutting colored glass coating

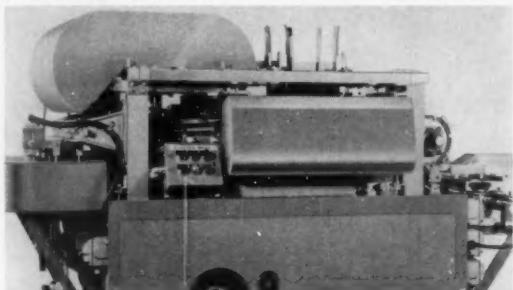
A new organic coating for glass that is said to cut the production cost of colored bottles and glass containers is now being offered by Bradley & Vrooman. Called Sterilkote Series 600, the coating is spray applied and bakes at temperatures ranging from 350 to 500 deg. F. using conventional spray and baking equipment. The new coating is said to require only one application without any surface pre-treatment and to produce high-gloss decorative and protective finishes that are highly resistant to acids, alkali, detergents and solvents. The supplier notes that this operation formerly required two applications. The finishes are also reported to be extremely adhesive to glass under humid or wet conditions and to increase the impact resistance of the glass as well as to enhance its appearance. A wide variety of colors are available in both transparent and opaque finishes. For additional information, contact *Bradley & Vrooman Co., 2629 S. Dearborn St., Chicago 16.*

New foil wraps for candy

A new line of printed aluminum foil wraps has been introduced by Reynolds Metals. Known as Reybar, the new line includes 11 foil specifications—each said to be specially developed for candy-bar wrapping. Suitable specifications are included for any type of candy bar and any type of packaging machinery, the supplier notes. Registered, embossed foil cartons for frozen candy and foil gift wraps for special-occasion gift candy have also been introduced. The foil gift wraps carry no commercial copy. Product identification is printed on a removable film sleeve. For further details, contact *Reynolds Metals Co., Richmond 18, Va.*

Continuous-motion multipacking line

Mead Packaging offers the Cluster-Wrap packaging system, an automatic machine for single or multiple carton packaging of rectangular products of uniform size and shape (such as chewing gum and bar soap). Because the unit operates as a continuous-motion packaging line, says the supplier, it eliminates the separate stations usually required for forming, filling and sealing. Only one operator is needed for the new machine, which is designed to utilize existing infeed and outfeed conveyors. In machine operation, the product or products move in from the end while the die-cut

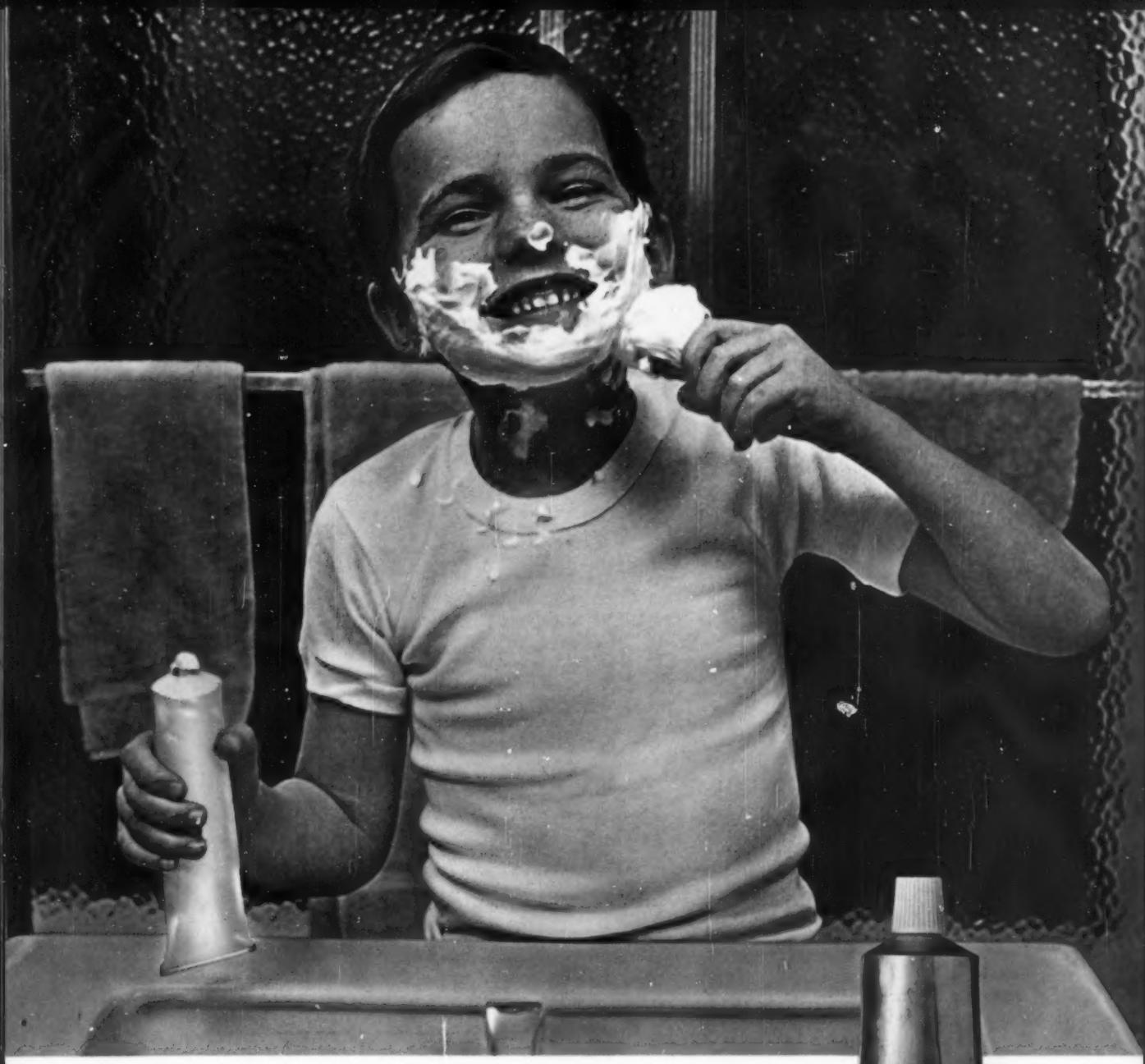


printed carton blank feeds in from the top. The carton is formed by machine action which automatically folds it around the product to be packaged. Self-locking carton tabs eliminate the need for glue, staples or sealers. For additional data, contact *Mead Packaging, div. The Mead Corp., 950 W. Marietta St., N.W., Atlanta 2.*

Non-flaking dairy-carton coating

A wax-plastic formulation that is said to stop milk cartons from leaking and flaking is available in commercial quantities from Sun Oil Co. Called Sunoco Supreme Dairy Coating, the formulation is also said to provide a clear, hard finish. Reported flakage is less than 1 gm. per 1,000 cartons. The coating has shown excellent results in stopping leakage

[Continued on page 188]



This little shaver likes Peerless

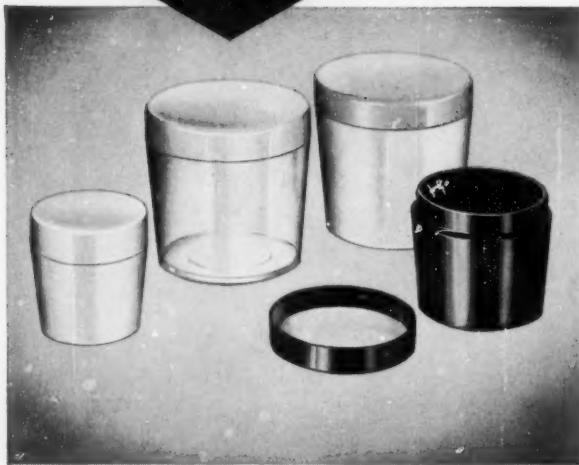
Markets grow up overnight. The youngster who has turned to metal tubes for everything from cut fingers to gleaming smile just naturally keeps the habit as a man.

That is why so many big brands prefer Peerless tubes. Tubes that assure precisely-right closures, coatings and liners for any product. Tubes that command attention with clean, crisp colors and easily-recognized design clarity.

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The World's Largest Producers of
STOCK plastic
VIALS and
JARS...



plastic COSMETIC JARS

Beautifully tapered to impart the "cosmetic" look. Extremely heavy wall of polystyrene gives traditional appearance of bulk without use of double wall or false bottom. Yet Clearsite cosmetic jars are still one-fifth the weight of glass. Polystyrene threaded closures come complete with white pulp and vinyl liners. Jars are available from stock in white opaque in 1 ounce, 2 ounce, and 4 ounce capacity. Any standard color available on special run in quantities of 5000 or more. All jars can be multi-color printed.

These beautiful plastic Cosmetic Jars are just one of thousands of Clearsite stock packaging items designed to sell *your* product and cut *your* packaging costs.

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The BFM MULTIPLE PACKETER

designed specifically for
packet forming and filling with

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- condiments
- salad dressing
- ketchup
- jams & jellies
- cake mixes
- cereals
- dairy products
- liquid popsicles
- confectioneries
- beverages
- personal products
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- shampoos
- chemicals
- fertilizers
- glue

With this simple, rugged machine one man can form and fill up to 350 packets per minute in one continuous operation. Pressure, temperature (up to 500° F) and dwell times are precision controlled for perfect sealing of a wide variety of films and laminates. Write for complete literature, and submit samples of your products for test packaging at our Customer Service Laboratory.



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dropper assemblies • plastic closures • plastic bottles • custom molding • applicators

Equipment & Materials [Cont'd from page 184]

and giving a positive top seal, the supplier notes. It can be applied with conventional coating machinery and is claimed to be competitively priced. The new coating formulation is available in commercial quantities. *Sun Oil Co., Industrial Products Div., 1608 Walnut St., Philadelphia 3.*

New package-design service

What is reported to be the "first 24-hr. package-design service" for industry, providing overnight delivery of sample high-density polyethylene containers complete in every detail for design, color and test-market evaluation, is now offered by the Plastics Div. of Hydrocarbon Chemicals. The new service is designed to eliminate guesswork in evaluating new package designs by allowing marketing personnel to see their packaging ideas as they may appear on the retail shelf. It eliminates the costly procedures of art, facsimiles and mock-ups, says the company. *Hydrocarbon Chemicals, Inc., 128 Listre Ave., Newark.*

Automatic blister packager

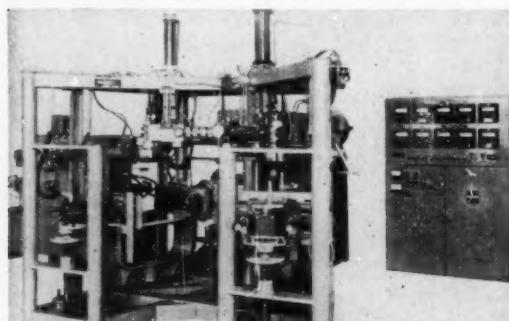
Product Packaging Engineering introduces the Pac-O-Vac Model 2400—a blister-packaging machine that forms, fills and seals in one automatic operation. Blisters are formed from a strip of roll-fed thermoplastic film. The product to be enclosed is placed in the blister either manually or automatically by means of a feeding device. The strip of filled blisters then is sealed to a backing material and cut off into single or pre-counted multiple packages. Reportedly, almost any thermoplastic film may be used and the transparent package provides sealed protection for delicate components or small precision parts. *Product Packaging Engineering, Culver City, Calif.*

Production-line code imprinter

New equipment expressly designed for bottom imprinting and coding of cases in production-line flow has been developed by Bell-Mark Corp. Known as Printa-Coder SM-902, it is said to incorporate a unique cylinder mounting arrangement which allows quick type change. The cylinder is mounted on an arm separate from the rest of the machine so that it can be lifted out to allow free access to the ink reservoir. The ink system, which reportedly needs no attention for more than eight hours, uses fast-drying inks. The attachment is pivot-point mounted in a box frame along the conveyor section. This is said to make the device especially applicable for industries where a quick type change is needed. *Bell-Mark Corp., 18 Ropes Pl., Newark 7.*

Continuous-flow blow molder

Now available from Modern Plastic Machinery is the V-21 OHP Diversamatic blow-molding machine. The two-station unit is available with two, four or eight blowing heads. The eight-head model (four at each station) is reported to be

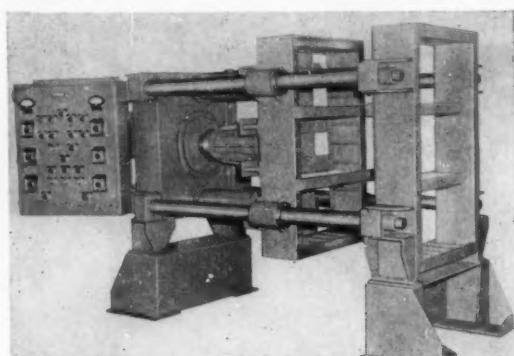


capable of producing 1,400 one-quart detergent bottles per hour. A feature of the machine is the use of piston-type accumulators which act as material reservoirs and reportedly provide the high pressure needed for fast parison extrusion. The accumulators make possible a continuous flow of plastic, since one fills during the cooling cycle while the other is forcing the parison out into the space between the

open die. This feature, notes the supplier, permits production of different items on the same machine. The blow molder's breaker plate and extruder screw can be removed without disconnecting the machine from the extruder which permits fast color changes, according to the company. *Modern Plastic Machinery Corp., Clifton, N. J.*

Expandable-polystyrene molding machine

An expandable-polystyrene molding machine with a capacity for handling any mold or group of molds up to 30 by 50 in. has been introduced by Tronomatic. It will reportedly keep



these molds clamped under 50-lbs.-per-sq.-in. pressure to insure against mold opening from internal pressure. It is claimed that any depth of part may be molded in this machine, as the stroke of the press can be modified to suit the user's needs. Standard strokes available are 16-, 24-, 30- and 44-in. Molds can be secured on the platen or fully imbedded within the platens, the supplier notes. This allows the full use of available stroke for clearing parts from the mold without wasting stroke on the depth of mold construction itself. The power unit which imparts the clamping force to the platen is an air hydraulic cylinder. The machines are designed with a method of venting molds during filling in order to allow proper filling at all times. Four other models with platen areas of 24 by 36 in., 42 by 42 in., 40 by 60 in. and 49 by 73 in. are available. *Tronomatic Corp., 25 Bruckner Blvd., Bronx 54, N. Y.*

Extruded polypropylene film

Extruded unoriented polypropylene film is now available in commercial quantities from Elm Coated Fabrics Co. The film is available in gauges from $\frac{3}{4}$ mil to 8 mils and in widths up to 54 inches. The three grades presently being offered are: (a) FDA-approved film without slip additive for use as overwrap or lamination, (b) FDA-approved film with slip additive for use as bag stock and (c) a specially formulated film for wire and cable wrap. *Elm Coated Fabrics Co., Inc., 261 Fifth Ave., New York 16.*

Knitted nylon netting for kraft bags

Stavis is marketing a knitted netting of 100% nylon which is suggested for lamination between two sheets of kraft paper to form a strong, lightweight and reportedly inexpensive bag for the packaging of coarse and heavy materials. It is especially recommended for use in chemical, fertilizer and produce bags. Available in widths of 20, 40, 60 and 120 in., the netting comes in two styles. Style 361-12 is a 210 denier nylon and style N-260 is a 260 denier nylon. *Stavis, Inc., 419 Park Ave. S., New York 16.*

Stock polyethylene bottles

Stock polyethylene bottles for detergents and household chemicals—in 12-, 22- and 32-ounce sizes—are now available from the Plastic Bottle and Tube Div. of Continental Can. Suggested for bleaches, starches, fabric softeners, cleansers and bowl cleaners as well as light-duty detergents, the bottles feature top beading and a recessed panel to provide a sure grip. They are available in natural finish or colored, and printing can be done by all conventional methods, the supplier notes. *Continental Can Co., Plastic Bottle & Tube Div., 293 N. Ashland Ave., Chicago 13.*

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SLITTER



MODEL "308"

...and put an end to wasteful
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The Stanford Slitter economically and efficiently converts paper, cellophane, acetate, plastic, foil laminates and other coated and uncoated materials with easy, one-man operation! The unit features Stanford Automatic Web Guide which holds side register to plus or minus .010 of an inch, automatic-controlled constant tension brake and convertibility from score or shear cut to razor blade slitting. Low overall height and ample spacing between feed rolls, slitting rolls and rewind shafts permit easier, faster threading and unloading.

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America's most versatile dropper!

Colonial engineers solved Johnson & Johnson's dispensing problem for its LIQUIPRIN* by placing both dropper assembly and printed insert in a self-enclosed "boat". Result: An attractive all-in-one dropper-plus-instructions unit that keeps the bottle snug in the box.

May we help solve your dispensing and packaging problems? We have representatives near you.

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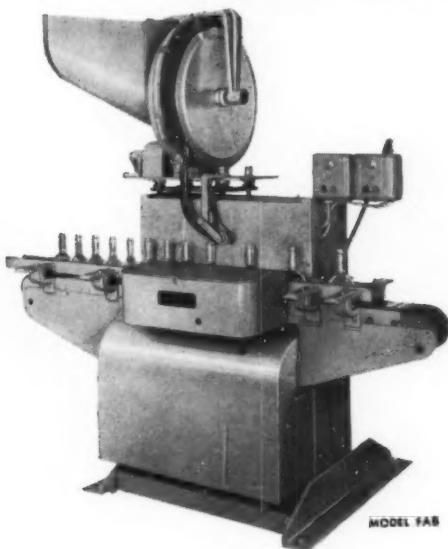
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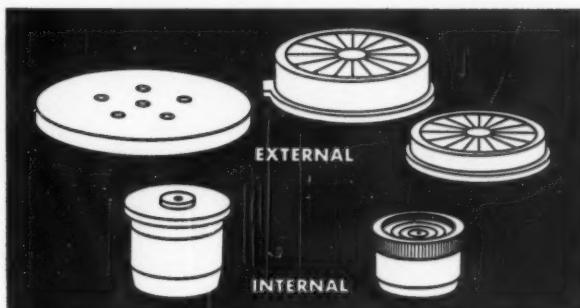
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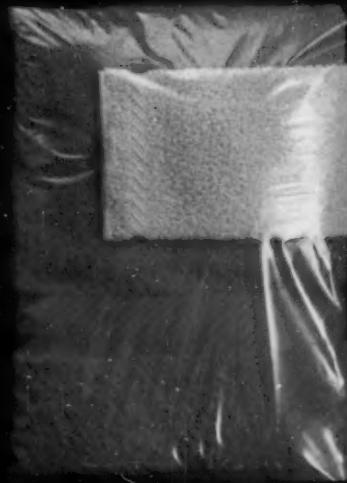
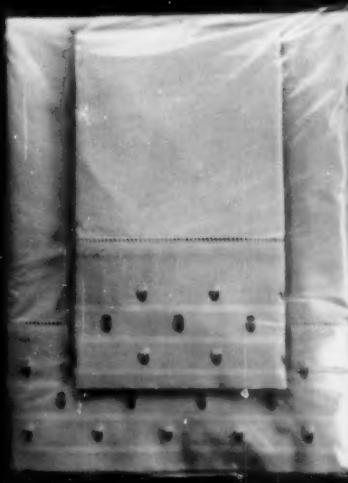


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Du Pont 2 in 1 polyethylene



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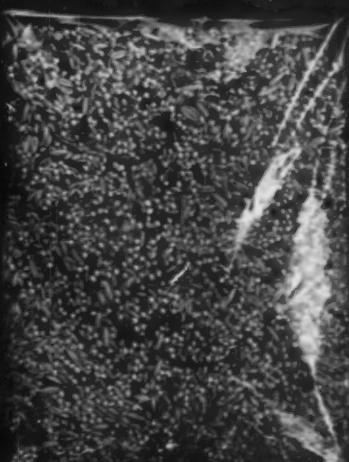
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clarity and toughness of
your product, too?



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BETTER THINGS FOR BETTER LIVING,
THROUGH CHEMISTRY



FOR YOUR INFORMATION

Flexible packaging for freeze-dried and other processed foods will be discussed at a military-industry conference sponsored by Research & Development Associates Food & Container Institute. The two-day conference will be held Sept. 26-27 at the LaSalle Hotel, Chicago. Topics to be covered include the current status of commercial freeze drying in the United States and Europe. Complete program and registration data are available from Lt. Col. Harlan J. Wills, exec. secy., Research & Development Associates, 1819 W. Pershing Rd., Chicago 9.

The Industrial Bag & Cover Assn. has disbanded as an independent entity and has been reorganized as the Industrial Bag & Cover Div. of National Flexible Packaging Assn.

Director and v.p. of the new NFPA div. is Edward H. Look of Portco Corp. The reason given for the disbanding of IBCA is the increasing diversification of products—especially plastic-film applications—which indicated the need for affiliation of the group with an association having broader product interests. NFPA reports that its new arm will continue to provide statistical and other services as before, and will be given several additional responsibilities.

Award-winning examples of hardware packaging will get two exposures next month: at the National Hardware Show in McCormick Place, Chicago, Oct. 2-6, and at the National Hardware Convention in Convention Hall, Atlantic City, Oct. 22-25. The award-winning packages will be selected at a packaging exposition—sponsored by the Hardware Packaging Committee of the Packaging Institute—to be held during the Chicago show. They will then be brought to Atlantic City for display at the Hardware Convention.

The Seventh Symposium on Food Additives will be held Oct. 11-17 in Belgrade, Yugoslavia, under the sponsorship of the Yugoslav Committee for the Coordination of Packaging, a member of the European Packaging Federation. The symposium will include discussions of the food additive problem as it relates to various packaging processes and materials.

Metal-can shipments during the first five months of 1961 showed a 2.8% total increase from the comparable period in 1960, according to Can Manufacturers Institute. Highlighting the gain, says CMI, was the continued rise in shipments of cans for soft drinks—up

55.9% from Jan.-May, 1960. Shipments of cans for vegetables and vegetable juices were up 19.9% and coffee-can shipments rose 11.1%, according to association figures. Decreases occurred in the shipment of baby-food cans (16.5%) and fruit and fruit-juices cans (15.1%). Shipments of aluminum cans for the five-month period were up 90.9% from a year ago, while cans for pressure-packed products experienced an 8.2% rise in shipments, says CMI.

A section to promulgate standards for cellulosic films used in packaging has been organized by American Society for Testing Materials. Chairman of the new section is Leon I. Oetzel of Milprint, Inc. The organization meeting of the section will be held in conjunction with the semi-annual meeting of ASTM's Committee F-2 on Flexible Barrier Materials, at the Quartermaster Research & Engineering Command, Natick, Mass., Sept. 26-27.

Plans are now being made for the 1962 Western Packaging Exposition, which will be held July 17-19 at the Civic Auditorium in San Francisco. The Western Packaging Assn. reportedly will conduct a special one-day



Look

packaging session during the show, which will be managed by Clapp & Poliak, Inc., New York. The Western Packaging Exposition is held biennially, alternating between San Francisco and Los Angeles.

George L. Clements, pres. of Jewel Tea Co., has been named chairman of the program committee for the Fifth International Food Congress & Exhibition. To be held Sept. 8-16, 1962, at the New York Coliseum, the event is open to participation by all segments of the U.S. food industry, including packagers, retailers, supplier groups, associations and Government agencies.

The Gift Wrapping & Tying Assn. is a new national trade association representing the gift-wrapping industry. Formed by The Tissue Assn., the new trade group is made up of manufacturers and converters of paper, aluminum foil, ribbons and related products. Some 20 companies already have been enrolled as members.

Officers of the trade group are: chairman, John Cahill, The Dobeckmum Co.; vice chairman, Arthur Dreyer, Chicago Printed String Co. Additional information on the new organization is available from Ross A. Fife, Gift Wrapping & Tying Assn., 122 E. 42 St., New York 17.

William D. Hall has retired as director of research for the Folding Paper Box Assn. of America. A 10-year veteran of FPBA, Mr. Hall plans to become an independent consultant in the graphic-arts field.

The association reports that shipments of folding cartons during the second quarter of 1961 ran almost 7% ahead of the first quarter and were exactly even with the dollar volume recorded in the second quarter of 1960.

Hercules Powder Co. offers a 12-page technical booklet on the processing of cast polypropylene films. It is divided into four main sections: markets, film properties, processing data and converting and packaging information. The booklet is liberally illustrated and includes a number of tables and charts. Copies are available from Hercules, 910 Market St., Wilmington, Del.

Plastics foams is the subject of a regional technical conference of the Society of Plastics Engineers, to be held Oct. 5 at the Hotel Lafayette, Buffalo, N.Y. The program encompasses 17 papers, to be delivered at concurrent sessions on rigid and flexible foams. Panel discussions and question-and-answer periods will follow each session. Advance registration fee is \$10; registration at the door will cost \$12. Requests [Continued on page 196]

DO YOU THINK

transparent packaging

COSTS TOO MUCH, THEN YOUR BEST FRIENDS HAVEN'T TOLD YOU (AND YOUR COMPETITORS WON'T) ABOUT THE



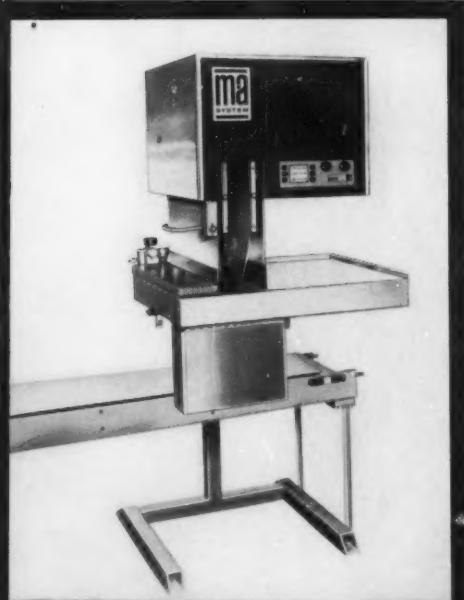
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 Loose package Shrink-fit package Rack package.

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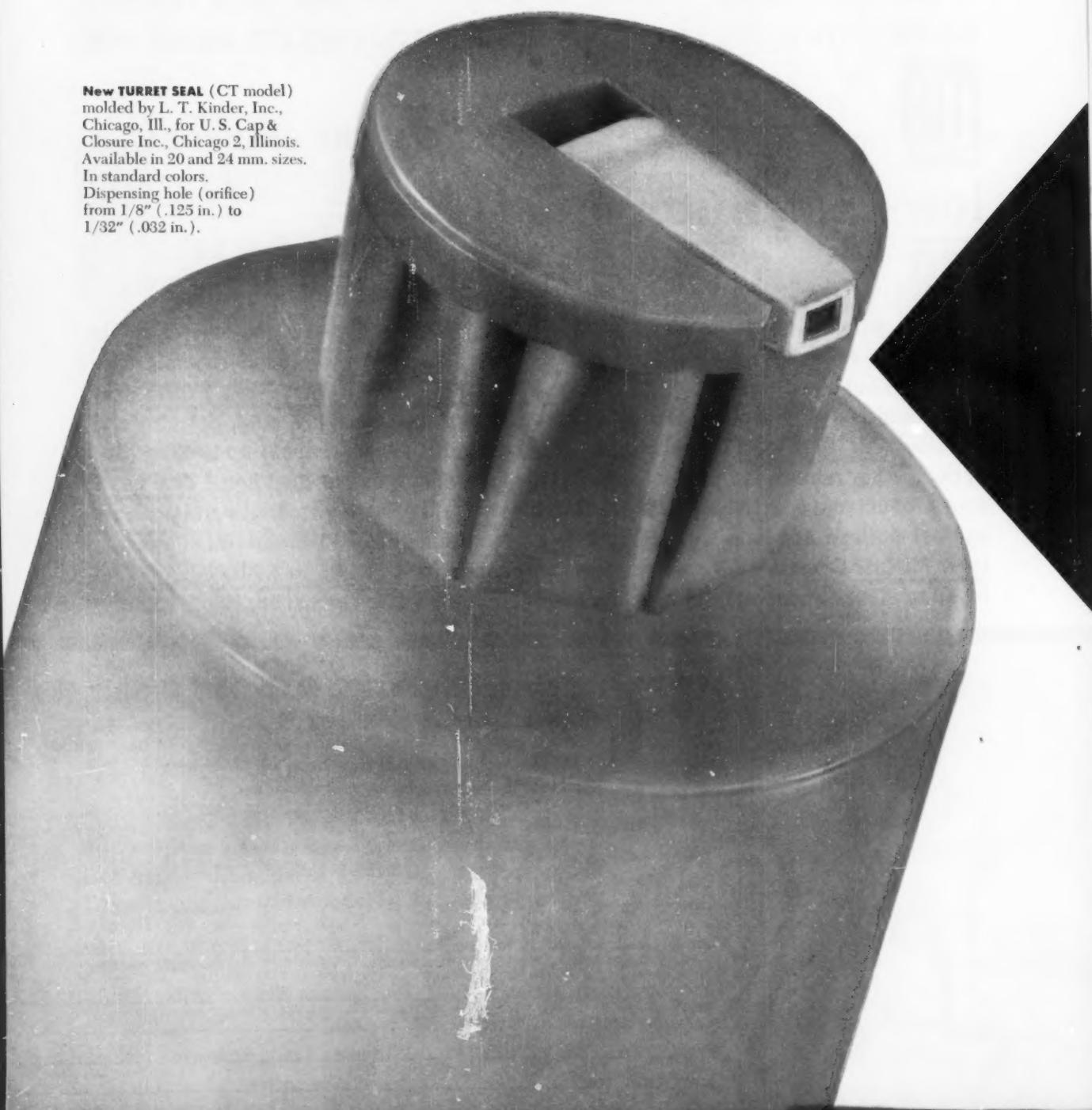
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CITY _____ **ZONE** _____ **STATE** _____

ATTENTION: MR. _____ TITLE _____

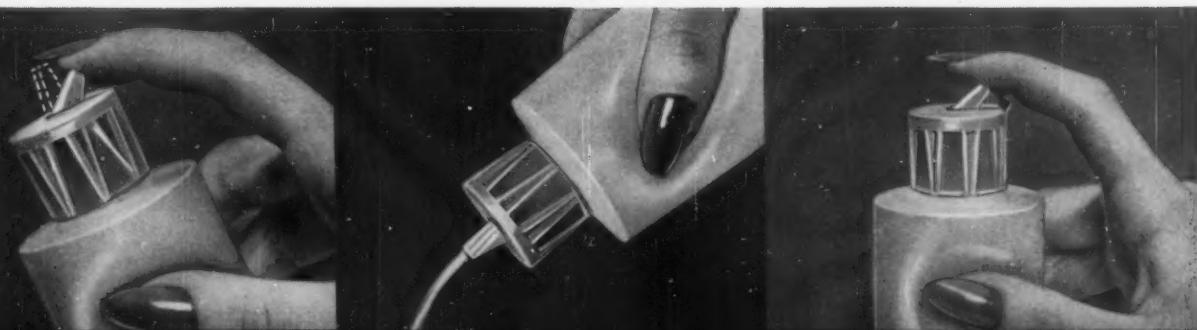
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The easy way to open and close a container! New in design—and BAKELITE® polyethylene makes it work!



FLIP! *It's open!*

SQUEEZE! *It dispenses!*

FLIP! *It's closed!*

FLIP—it's open! FLIP—it's closed! It's the new TURRET SEAL Closure! Providing new sales appeal for almost three million lotion, shampoo and deodorant containers . . .

U.S. Cap & Closure Inc. produces this cap. Its looks are clean, simple, in harmony with today's styling. The spout folds down into a smooth, flat top, easy for the retailer to price-mark.

Simple? For the user, yes. But the designer had some tough requirements. Components had to be easily assembled, yet fit and operate precisely. They had to form a perfect seal when closed. It made sense to choose from among BAKELITE polyethylenes—offering the broadest range of mechanical and molding properties available today!

If you have a closure or packaging problem, let Union Carbide know about it. There you'll find not only the widest range of plastics, but the practical knowledge that can pay off in lower costs and improved product performance for you. Write Dept. KE-86I, Union Carbide Plastics Company, Division of Union Carbide Corporation, 270 Park Avenue, New York 17, N. Y. In Canada: Union Carbide Limited, Toronto 12.



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F.Y.I. [Continued from page 192]

for further information and advance registrations should be directed to Andrew J. Hammerl, RETEC Registration Chairman, Durez Plastic Div., North Tonawanda, N.Y.

A first-place "Award of Excellence" has been won by *Packages & People*, an informational publication of E. I. du Pont de Nemours, in a journalism competition sponsored by the Assn. of Industrial Editors.

Chicago's McCormick Place is the setting for National Automatic Merchandising Assn.'s 75th anniversary convention and exhibit, Oct. 28-Nov. 1. The association reports that some 96 companies already have signed up for exhibit space at the five-day show. NAMA also is sponsoring a concurrent First International Symposium of Automatic Merchandising at the huge hall. It will run Oct. 31-Nov. 1.

Harlequin Press, London, publisher of *Packaging Review* magazine, has issued its first annual *Packaging Review Data Book*, an encyclopedic volume of 448 pages. Designed as an annual reference book for package-user companies doing business in England, it contains six classified-directory sections: Index to Suppliers; Containers and Closures; Packaging Materials; Container-Making Machinery; Packaging Machinery, and Contract Packagers. The volume also contains a compilation of basic information on some 150 major packaging materials, with emphasis on newer materials and those under development. Copies of the *Data Book*, at \$5.88 each, are available from Harlequin Press, Ltd., Commonwealth House, New Oxford St., London W.C. 1.

The Institute for Better Packaging, trade association of paperboard package suppliers, has formed a Bakery Div. Among the principal objectives of the new div. are: promotion of the progress and development of paperboard packaging for bakery products; collection and dissemination of statistical data; the conduct of surveys and related projects designed to increase paperboard markets and applications, and the development of voluntary standardization projects.

Newly elected v.p. of American Society for Testing Materials is Alfred C. Webber of the research and development div. of the Polychemicals Dept., E. I. du Pont de Nemours & Co. Gordon M. Kline, chief of the Organic and Fibrous Materials Div., National Bureau of Standards, and Technical Editor of *Modern Plastics*, has been elected to a three-year term on ASTM's board of directors.

A 20-page booklet describing and comparing standard methods of bottom closing regular slotted containers and other corrugated cartons is offered by Acme Steel. Taping, stapling and stitching—both manually and automatically—are covered in the illus-

trated booklet, which is titled "A Guide to Better Closures." Copies are available without charge from Acme Steel Co., Acme Steel Products Div., 135th St. & Perry Ave., Chicago 27.

A package-design program for a line of General Electric educational science kits has won Industrial Designers Institute awards for three members of Visual Marketing, Inc. They are: Arnold J. Copeland (pres.), Robert Baker and Robert Y. Kimura. IDI's 11th annual awards were presented at a luncheon in Chicago. The packages designed for GE by Visual Marketing encompass transparent polystyrene covers and pilferproof construction. Package covers and bases are designed to become functional parts of the seven educational projects in GE's line. (See "GE Enters the Hobby Market," MODERN PACKAGING, April, 1961, p. 164.)

A survey on medical aerosol packaging has been conducted by the Packaging Institute at the request of Peerless Tube Co. The survey, designated Advisory Service Report 351, was made in an effort to pinpoint areas of general dissatisfaction and to determine industry opinion of current medical-aerosol applications and of potential future uses. The survey was made among some 100 pharmaceutical packagers and a number of aerosol-industry supplier companies. Copies of the survey can be obtained from the Packaging Institute, 342 Madison Ave., New York 17. The charge is \$2 for PI members and \$4 for non-members.

William N. Gunn, Stuart & Gunn, has been elected secy-treas. of the Package Design Council.

Featured speaker at a June 29 luncheon meeting of the California Packaging Club in Los Angeles was J. Chris Smith of J. Chris Smith, Inc., a design firm. Mr. Smith discussed the role played by packaging in shaping a corporate image.

At a press luncheon on June 29, Frank H. Wheaton, Jr., pres. of Wheaton Industries, presented "The Wheaton Story," a new book outlining the development and growth of the nine diversified Wheaton companies and 13 foreign affiliates engaged in the manufacture of glass, plastics, closures, plastic-coated glass containers, molds, molding equipment, glass-container research and other activities.

The Institute of Packaging, England, has published in book form a complete report of its recent two-day conference on "Odour in Packaging." The 231-page, hard-cover book is divided into five sections. It includes a detailed report on conference proceedings as well as technical papers presented at the conference. Among the topics covered are: quality control and testing, printing processes, ink making and methods of minimizing package odor. Copies of the book, at \$3.50 each, are available from The Institute of Packaging, Malcolm House, Empire Way, Wembley Park, Middlesex, England.



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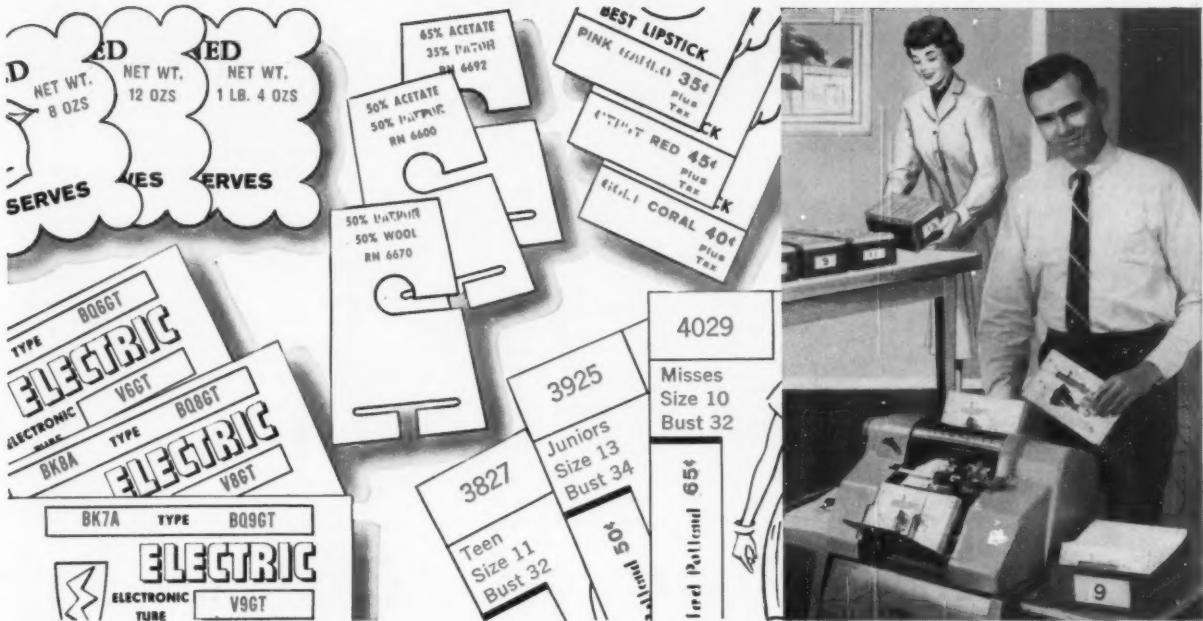


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U.S. PATENTS DIGEST

This digest includes each month a brief summary of the more important current patents which are of special interest to all packagers.* Edited by H. A. Levey.

Apparatus for Applying Seals to Containers, William Barton Eddison and Warren E. Erickson (to Gisholt Machine Co., Madison, Wis., a corporation of Wisconsin). U.S. 2,986,859, June 6. Apparatus for applying initially flat folded seals from a seal source onto containers, comprising a first rotatable input shaft, a second rotatable input shaft and a plurality of seal-applying assemblies connected for rotation by said second shaft.

Mandrel Assembly for Seal-Applying Machine, Arden L. Salzwedel (to Gisholt Machine Co., Madison, Wis., a corporation of Wisconsin). U.S. 2,986,860, June 6. For use with a machine for applying seals to capped bottles or the like, a mandrel assembly comprising a support and a plurality of spaced segmental members forming a seal-receiving, slidably mandrel.

Method and Machine for Forming Edge Seals on Bags, John D. Sylvester, Edwin E. Messmer and John D. Keenan, (to Amesco Packaging Machinery, Inc., Long Island City, a corporation of New York). U.S. 2,987,106, June 6. In a heat-sealing machine adapted to form an edge-seal closure on a plurality of superposed heat-sealable plies, a pair of opposed bells adapted to engage said plies inwardly from the edges thereof and adjacent to a line along which the seal is to be made.

Rotary Heat-Sealing Apparatus, John D. Sylvester and John D. Keenan, Jr. (to Amesco Packaging Machinery, Inc., Long Island City, a corporation of New York). U.S. 2,987,107, June 6. A machine for sealing the mouth of a plastic bag, including a pair of tangentially arranged heat-sealing rollers and means for moving the bag to and past said rollers so as to pinch the walls of the bag mouth between them.

Checking Filled Containers, Oskar Riemer (to Miller Brewing Co., Milwaukee, a corporation of Wisconsin). U.S. 2,987,178, June 6. In apparatus for checking filled containers, a conveyor belt on which filled containers are supported for movement in line formation, and guiding means including a guiding rail along each side of the conveyor.

Spacer for Produce Containers, Walton B. Crane (to Allied Plastics Co., Los Angeles, a corporation of Calif.). U.S. 2,987,198, June 6. In combination, two parallel rows of rectangular produce containers, each including two opposite end walls and two opposite side walls, a wire coupler carried on each container end wall, each coupler being located midway between the container side walls and having an end projecting above the upper edge of the respective end wall.

Dispenser Spout for a Carton, Albert A. de Vries and Albert P. de Vries, Carmel, Calif. U.S. 2,987,222, June 6. A dispenser adapted to be incorporated into a carton top by insertion through a wall thereof, having a lance formed

with planar portions, one of said portions having a point and a serrated edge contiguous with said point.

Corrugated Container, Philip C. Strine (to International Paper Co., New York, a corporation of New York). U.S. 2,987,236, June 6. A paperboard box comprising a bottom member, a pair of side wall members joined with said bottom member along fold lines on opposite sides of said bottom member, a pair of end walls joined with said bottom member along fold lines extending along the opposite ends of said bottom member.

Method of Forming Plastic Containers, Ransom C. Albrecht and Edgar G. Heyl, c/o Crown Cork & Seal Co., Baltimore, U.S. 2,987,775, June 13. A process of impact forming a hollow tube, comprising inserting a planchette of a solid thermoplastic synthetic resin having a break limit of at least 330% and an elastic limit of at most one half the break limit in an open die and then impacting against the planchette a plunger of lesser external diameter than the internal diameter of said die.

Method of Forming Neck Finishes on Glass Containers, Paul Holland Payne (to Owens-Illinois Glass Co., Toledo, a corporation of Ohio). U.S. 2,987,854, June 13. A method of controlling symmetry of dimensions of the neck finish of a glass container, wherein said neck finish is formed initially in complementary partible neck mold halves that are closed about a diameter at a time concurrent with parison formation.

Method of Producing Infusion Bags, James P. Whelan (to Pneumatic Scale Corp., Quincy, Mass., a corporation of Massachusetts). U.S. 2,987,857, June 13. A method of producing a filled and sealed bag having a handle comprising a tag and a string, and including the step of providing a sheet of bag-forming material.

Method of Closing Bag-Tube Ends, William C. Kerker (to Union Bag-Camp Paper Corp., New York, a corporation of Virginia). U.S. 2,987,858, June 13. A method of closing and sealing the open end of a filled multiwall bag having a stepped end with an exposed, heat-sealable inner ply.

Feeding of Frozen Foods in a Vertical-Flow Packaging Machine, Edward W. Forth and Francis Crescenzo (to Packaging Machinery Co., East Longmeadow, Mass., a corporation of Massachusetts). U.S. 2,987,859, June 13. In a vertical-flow packaging machine, a vertical composite drop tube around which is folded a web of wrapper material in tubular form and along which the wrapper material is advanced in the machine.

Packaging Apparatus, Milton A. Howe, Jr. (to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut). U.S. 2,987,860, June 13. An apparatus

which will facilitate the manual performance of a method of packaging which comprises, in combination: a base, a horizontally disposed X-shaped frame mounted above said base to accommodate a packaging tray having four side walls, and an upright member mounted at the end of each of the four arms of said X-shaped frame and positioned so that one pair of said upright members abuts one side wall.

Wrapping Machine, Leonard Brook (to The Forgrave Machinery Co., Ltd., Leeds, England). U.S. 2,987,861, June 13. A bunch-wrapping machine comprising a number of wrapping elements mounted on a rotary carrier head so as to be carried thereby past successive wrapper-feed, loading, tucking, sealing and discharge stations; said wrapping elements being constituted by blocks formed with open-mouthed pockets extending into them parallel to the axis of rotation of the carrier head.

Apparatus for Closing a Carton, Grover C. Chandler (to American Can Co., Menasha, Wis., a corporation of New Jersey). U.S. 2,987,973, June 13. Apparatus for providing non-bulging closure of the end of a paperboard carton having opposed pairs of side walls and an opposed pair of end closure flaps hingedly connected to the end edges of one opposed pair of said walls.

Food Package, Theodore Loew (to National Dairy Products Corp., a corporation of Delaware). U.S. 2,988,208, June 13. A package comprising a seamless container portion of double creped paper which is coated on its upper surface with a moisture-impervious, thermoplastic material; said coating comprising a mixture of about 5% polyethylene and about 95% microcrystalline wax and weighing between 15 to 30% of the dry weight of said paper.

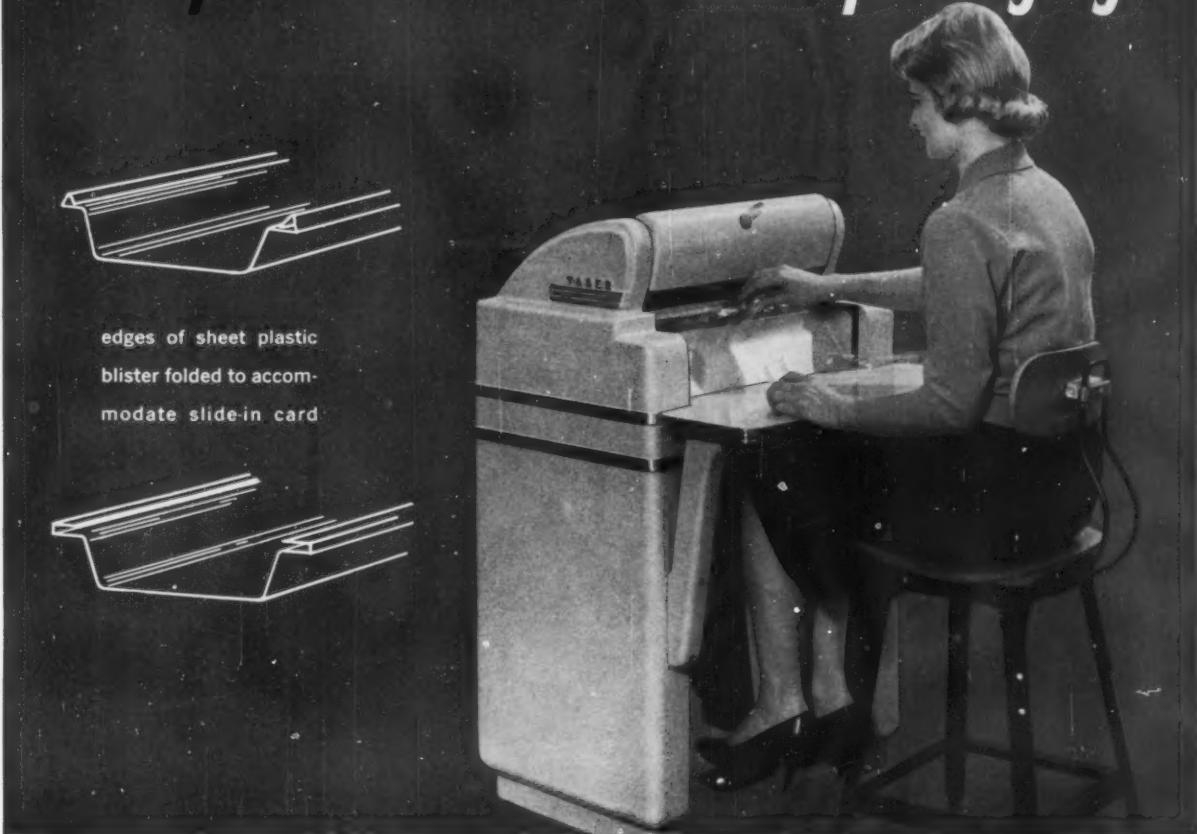
Insulated Shipping Container, Willard L. Morrison (to Liquefreeze Co., Inc., New York, a corporation of New York). U.S. 2,988,241, June 13. An insulated shipping container comprising a housing having a permanently insulated floor, vertical side walls and a horizontal ceiling, with a fixed tread plate on the floor, the outer edges of which are spaced from the walls.

Container and Cover Assembly for Corrosive Materials, Thomas H. Gibbs, Jr. (to Continental Can Co., New York, a corporation of New York). U.S. 2,989,208, June 20. For use on a container for corrosive liquids or semi-liquids, a cover assembly for sealingly engaging the container after it is filled with a corrosive material.

Portion-Dispensing Container, Joseph J. Moro-Lin, Fair Lawn, N. J. U.S. 2,989,216, June 20. A portion-dispensing container for liquid, comprising a squeeze container having a flexible wall, a bottom and a top having a reservoir section; a movable funnel-shaped measuring cup having an outlet

*For more detailed information, copies of patents are available from the U. S. Patent Office, Washington 25, D. C., at 25 cents each, payable in currency, money order or certified check. Postage stamps are not acceptable.

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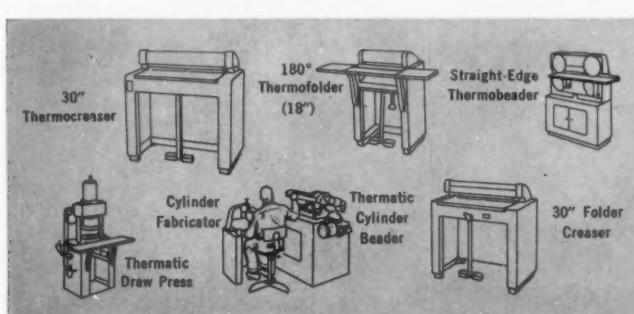
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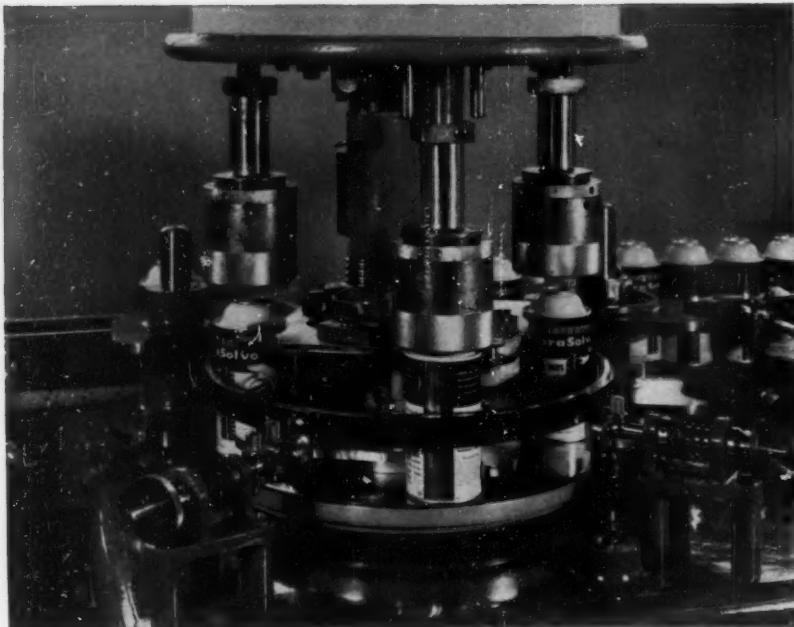
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A recent customer reports the new CAPEM Automatic Rotary Crimper for Aerosol Valves delivers more than a million cans without a sign of jaw or plunger wear or misalignment. The crimper assembly holds well within crimping tolerance throughout the entire run.

The machine features a completely mechanical operation . . . no air required. During the crimping operation, a mechanical plunger drops over the valve and expands 6 precision-tooled segments for crimping contact. When the plunger retracts, the segments snap back into position for positive release of the can *before top pressure is released*. The crimping operation is further protected by Consolidated's built-in accuracy of container handling and centering, with automatic pre-seating of unseated valves.

Crimper jaws are adjustable to provide depth of crimp desired. The machine, with adjustable turret, can be easily set for proper crimp height and top pressure.

The Model C-4-SC, 4-spindle operation shown, will handle any size can with standard 1" valve at speeds of 110 to 120 containers a minute. Faster six and eight spindle machines are available.

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Patents [Continued]

tip serving as the sole draining outlet for said funnel-shaped cup.

Metering Valve-Operating Button for Aerosol Dispenser Containers, John Richard Focht (to Precision Valve Corp., Yonkers, N. Y., a corporation of New York). U.S. 2,989,217, June 20. In a valve assembly for an aerosol dispenser having a dispensing outlet (and a valve for said outlet having a reciprocable, tubular valve stem), the improvement which consists of an operating button for said valve stem.

Box Construction, Robert H. Haffener (to Ellis Paperboard Products, Inc., Portland, Maine). U.S. 2,989,222, June 20. A collapsible box construction having a filler and covering members, said filler comprising a plurality of interlocking flat partitions forming lattice-like compartments.

Packaging Process, Fred A. Groth (to Union Carbide Corp., New York, a corporation of New York). U.S. 2,989,827, June 27. A process for the packaging of an article which is at least in part readily deformable, the steps comprising placing such article on a surface of a porous supporting object and disposing a thermoplastic sheet over said supporting object.

Safety Cap for Containers, Gilbert L. Rhodes, Castro Valley, Calif. U.S. 2,990,075, June 27. In a safety container cap to prevent an unauthorized person from removing the cap from a container or the like, a skirted inner cap with a threaded socket to engage a threaded neck on the container.

Box Assembly, George V. Thompson (to Chicago Carton Co., a corporation of Delaware). U.S. 2,990,097, June 27. A paperboard box assembly comprising an outer carton and an inner tray slidably positionable in said outer carton, said tray being formed from a single blank and being of generally rectangular cross section.

Folding-Box Construction, Joseph Kramer (to Diamond National Corp., a corporation of Delaware). U.S. 2,990,098, June 27. In a corner construction for an infolded box, a paperboard blank cut and scored to provide a rectangular bottom panel, a side wall panel and an end wall panel articulated to adjacent side edges of said bottom panel along lines of articulation meeting at right angles to define a first point of juncture.

Collapsible Carton, Fred A. Ryder (to Chicago Carton Co., a corporation of Delaware). U.S. 2,990,099, June 27. A collapsible carton having an automatic locking bottom, said carton being formed from a unitary blank and comprising four foldably interconnected side walls which are disposable between a flat collapsed condition and an erected tubular formation having a rectangular cross section.

Bag for Milk and the Like, Harry A. Mead and Lamont Slagel (to Dairy Containers, Inc., Denver, a corporation of Colorado). U.S. 2,990,101, June 27. A bag for milk and the like, comprising front and rear walls formed of a heat-sealable plastic material and connected together in secure fashion at their imperforate side edges.



These are examples of the finely detailed, eye-catching caps and closures that are injection-molded for Avon Products by Mack Molding Company of Wayne, New Jersey.

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In AviSun polypropylene, Avon Products finds all the properties needed for colorful and durable caps and closures.

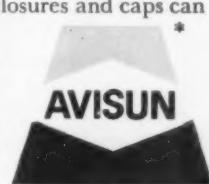
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IPACK exhibition debuts in Milan

A new exhibition has taken its place among major European showings of packaging equipment, materials and techniques with the opening of IPACK in Milan, Italy, from June 20 to 29. In its varied and interesting

a new "micro" glass aerosol for insecticides, which contains just enough product to spray one room.

As in the U.S., polyethylene and polypropylene took the spotlight in plastics. On display were many new



Typical of the new machinery on display at IPACK.

presentation of materials and with an abundance of both European and American machinery, the new Italian show can be favorably compared with older competitors in London, Paris and Dusseldorf, according to Pierre J. Louis, secretary general, European Packaging Federation.

In statistics, IPACK was most impressive. Occupying 550,000 sq. ft. in the Milan Fair Grounds, the exhibition drew 560 exhibitors, of which 23 represented United States companies.

More than 20,000 visitors—half from countries other than Italy—thronged seven main buildings to gaze at the latest high-style packages created by European designers and to evaluate new plastic materials and both high-speed and versatile packaging machinery.

In packages, growing Italian supermarkets have exerted a strong influence on surface design of paperboard cartons and in the design of various new laminated containers, combining paperboard with aluminum foil or plastics. New corrugated constructions for fruits, vegetables and wines were also noteworthy and a strong increase was seen in aluminum containers, particularly aerosols. In the latter field, however, strong competition is expected from

polyethylene containers made for the first time in Italy by sintering with the Engel process. Latest polypropylene films were shown in use on several wrapping, pouch-packing and bag-making machines.

Among other plastics, PVC was an outstanding competitor in the form of 110-lb. valve bags for fertilizer and a new ABS plastic (acrylonitrile-butadiene-styrene polymer) was shown in blow-molded bottles, trays and gasoline "cans."

New overwrappers were abundant in the machinery exhibits, with special units on display for a wide variety of products ranging from Vienna bonbons and fresh meats to dice and ball bearings. Increased speed was the big feature, with at least one unit reported capable of handling up to 300 packages a minute.

Among several new cartoning machines, one high-speed rotary unit for powdered products was particularly outstanding. And there were several new pouch-packing units, one of which reportedly operates at speeds of more than 200 pouches per minute with flat tubing.

Slated as a biennial affair, IPACK will nevertheless hold its second show in 1962 at Milan from June 1 to 8. Following this exhibition, it is planned for every other year. •



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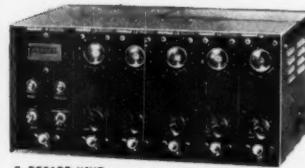
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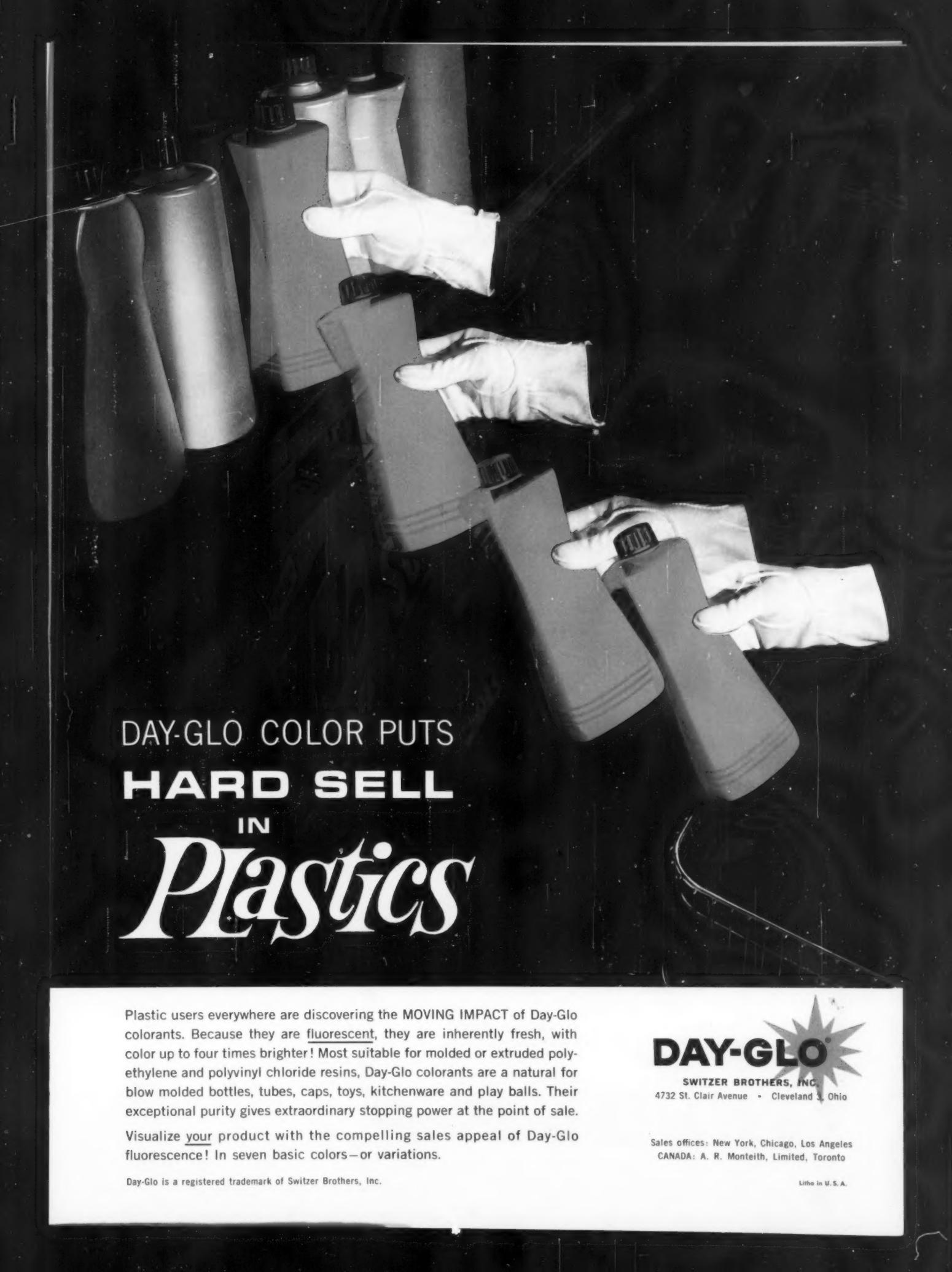
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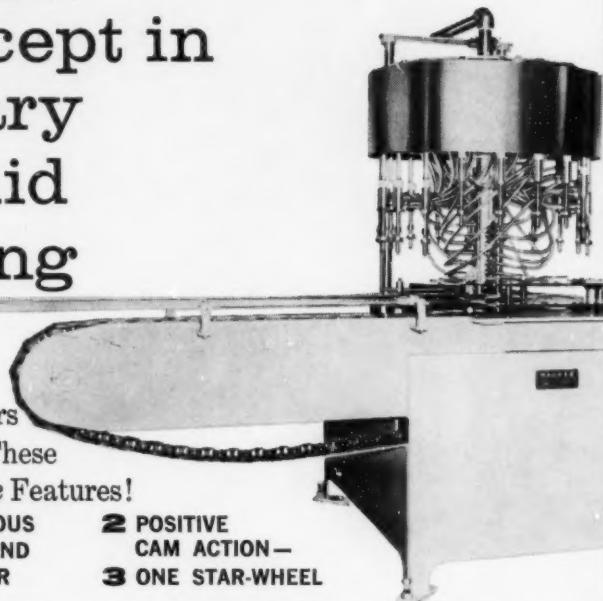
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New F&DA clearances

Packagers using metal cans and those using high-density polyethylene containers for cook-in applications received final assurance that their packaging materials have Government approval with the recent publishing in the Federal Register of an omnibus petition covering can linings and a special regulation covering one type of high-density polyethylene that is designed for use at elevated temperature.

The regulation on high-density polyethylene, based on special data submitted by the Phillips Chemical Co., is the first formal go-ahead for the use of this thermoplastic in boil-in-bag or bake-in-package containers, which are made from or coated with the plastic. Other polyethylenes for cook-in applications are being used, at the present time, under an extension granted by F&DA some months ago. •

Horizontal-auger filler

[Continued from page 134]

later deterioration of these products in the package, the entire system—from product preparation to packaging—is flushed with a dehumidified atmosphere. The filler's enclosure of acrylic plastic acts as a barrier, but permits a full view of the filling action. The auger assembly is totally enclosed by the supplier.

Dried air is introduced through a 3-in. pipe directly into the top of the filler over the filling pockets. An exhaust tube, located between the intake and exit stars, removes excess air and dust. Dehumidified air is also piped into the enclosed product mixers and product hoppers located above the packaging room.

Filled containers pass out of the filler onto a straight-line conveyor for the automatic application of shaker fitments (where they are used), caps and labels. The containers are then cased by hand.

The simplicity and efficiency of the feed mechanism in this filler should facilitate its use in a broad range of dry-product packaging operations, since there is no restriction—within reason—on the size or speed of the auger and thus no limit to size of container that could be filled on the machine. Multiple augers could also be used, it is reported, to boost filling capacity. •

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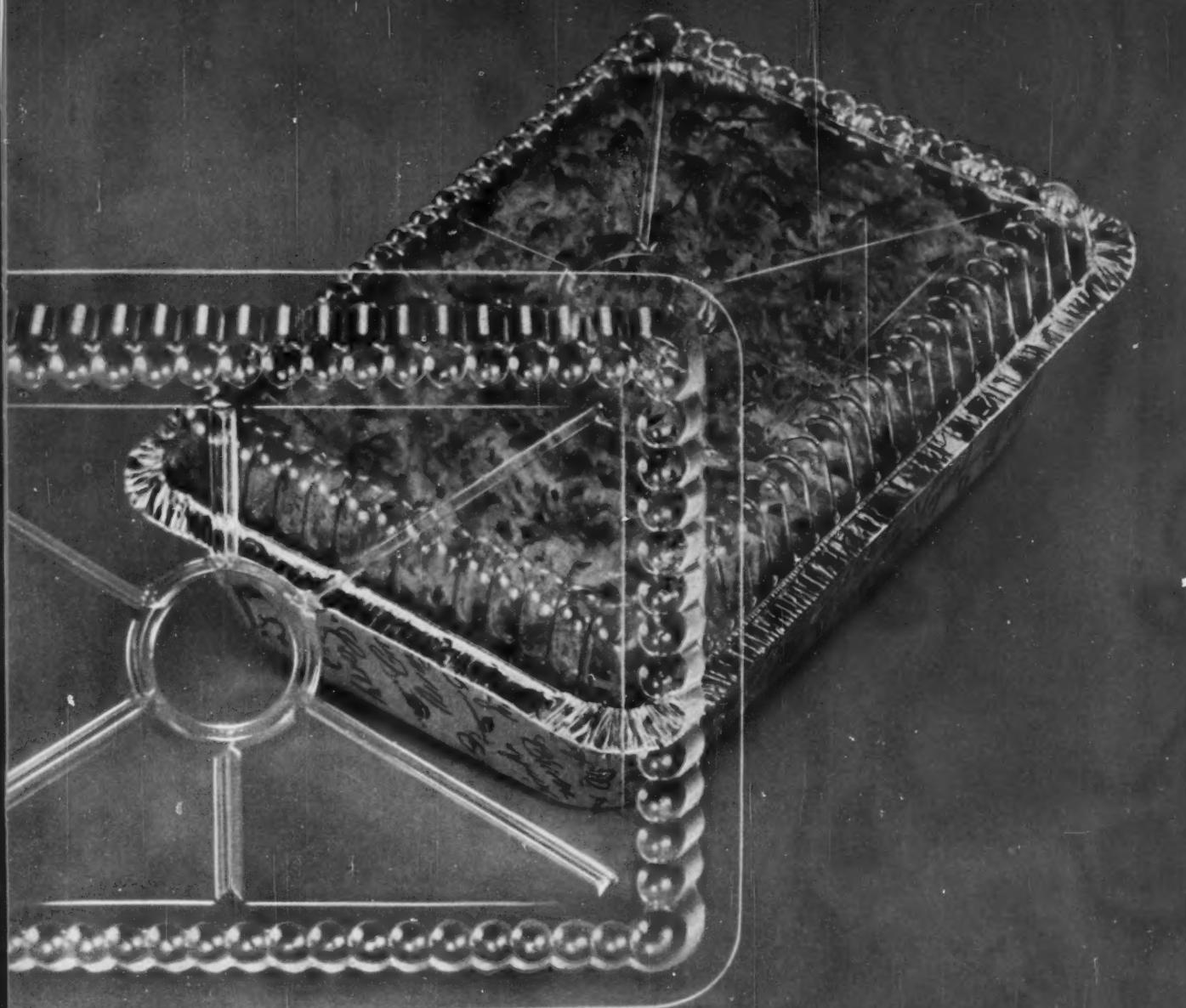
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Each part has an interesting story. The delicate-appearing but almost indestructible little bow, for example, is made of metallized polyester only .00025 of an inch thick. This is the same material from which the Echo space balloon was made. Standard's *National Metallizing Division* produces it.



Slide off the band—it's gift wrapped

The cellophane band, which carries brand identification and other mandatory copy, was gravure-printed by Standard's *Allegheny-Fuller Division*. The only "commercial" on the package, it slips off like a cigar band, leaving a festive, ready-wrapped gift.



Carton has special features

The carton, which was made by Standard's *Bradley & Gilbert Division*, has a peek-through top so the recipient can see his gift without opening the box. It also has a Quik-Lok bottom to speed the filling operation.

The foil wrap—made by Standard's *Johnston Foil Division*—was gravure-printed in four colors by the same division that printed the cello band, *Allegheny-Fuller*.

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• CLOSURES AND CAP LINERS • PAPER PAILS, CANS, TRAYS •
LABELS AND OVERWRAPS • LAMINATIONS

Treatment of glass

[Continued from page 148]

pasteurizing in the customer's operation. This treatment will protect the bottles from the time they are manufactured to their final destination or use. Primary use of Duracote is on applesauce containers and some baby foods, since these items contact water during packing.

Labeling presents no difficulties even though Duracote is slightly water repellent. As in the case of 15-101, most of the commercially available glues work as well on Duracote-treated bottles as on bottles with no treatment.

In view of the increased lubricity, bottles treated with Duracote offer improved bottle handling at higher speeds on customer lines. Bottle abuse is significantly reduced. This treatment, which was perfected at the Owens-Illinois Technical Center, is being applied to about 7% of all glass-container production.

The diluted Duracote emulsion is applied by the same equipment as is used in the 15-101 treatment. Bottle temperatures are somewhat higher, since curing of the Duracote material is required. Temperature control is important, since one must accomplish the proper curing of the Duracote without breaking the bottles or destroying the physical properties of the film.

Silicones

Treatment with silicones may be indicated in special cases. Only inert, non-toxic silicones approved by F&DA are used by Owens-Illinois for bottle-surface treatment. All of these materials offer extremely good lubricity and scratch resistance. Silicones are either insoluble or very slightly soluble in water and, therefore, offer protection of the glass surface through the washing and pasteurizing operations in a customer's plant. Since silicones are extremely water repellent and chemically inert, there are some labeling problems associated with their use. Application of these coatings is done with the spray equipment described previously in this report.

Sulfur treatment

Exposure of glass to sulfur dioxide gas in the high-temperature zones of an annealing lehr permits a reaction between the sodium oxide

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at the glass surface and the gas. This treatment results in a "bloom" or a smoky film remaining on the surface of the glass.

Such treatment is primarily practiced to enhance the chemical durability of a glass surface. The "bloom" of sodium sulfate provides a nominal degree of lubricity and protection. Solubility in water is very high and while no labeling problems exist, the protection disappears on washing.

Summary

Surface treatment of glass containers to enhance service characteristics is the subject of continuing research and development. Laboratory results are developed by production engineers into commercial treatments which benefit the packaging customer. A high degree of sliding friction is undesirable because it causes surface damage which reduces the original high strength of glass containers. Each of the surface treatments described—15-101, Duracote, silicones and sulfur—help to retain the original high strength of the newly formed glass container. Customer preferences show 15-101 as being the favored Owens-Illinois treatment. •

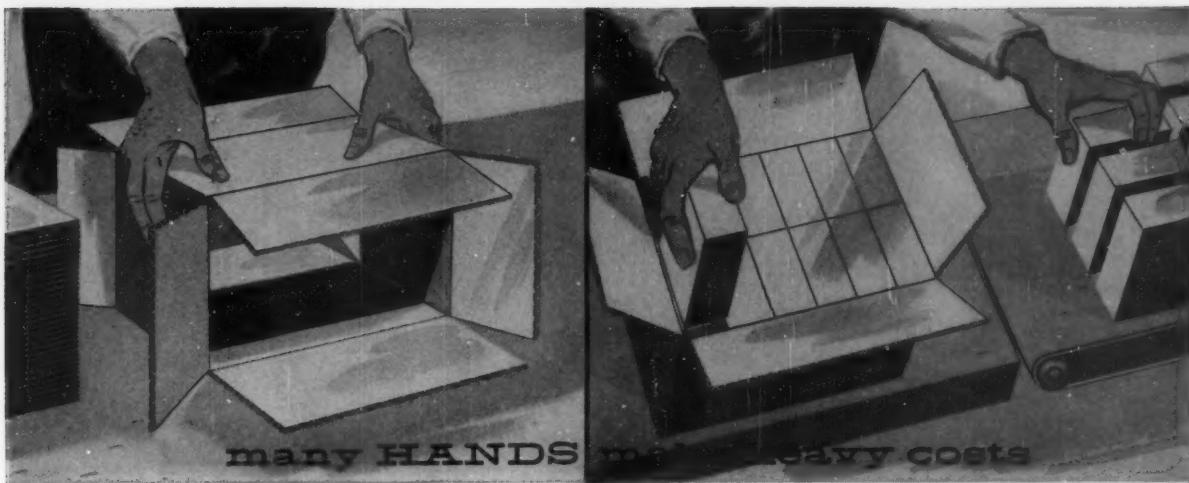
Food status of foil

[Continued from page 145]

dilution (pipette 10 ml. of extract into a 100-ml. volumetric flask and fill to the mark with fresh solvent).

Results

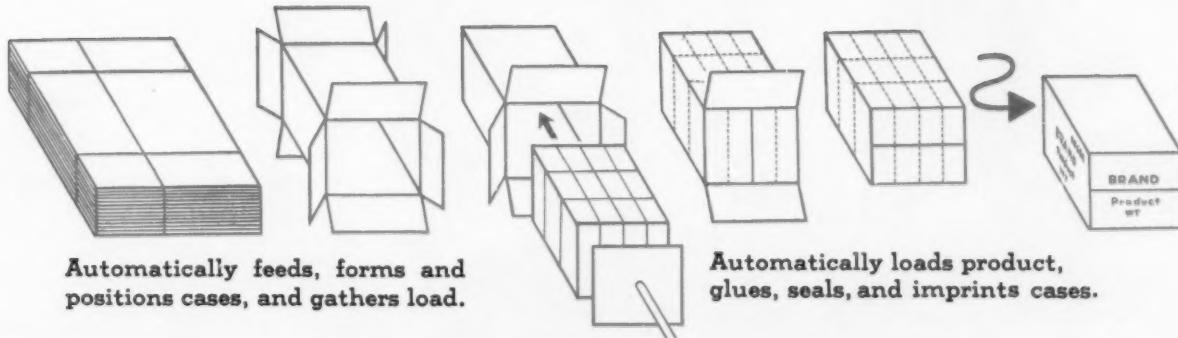
(A) *Total residues.* The pooled results obtained by the eight collaborating laboratories, comprising residue data from 292 determinations, have been summarized in Table I. It will be noted that the average values show the trend expected, in that heavy foils retain more residue than thin foils and, further, that annealing to produce softer foils reduces the amount of residue found. As would also be expected, the values vary over a considerable range due in part to the variations in foils produced by the different manufacturers, as well as to the inherent error of the analytical method. These results show, however, that 95% of the foils tested retained rolling-oil residues of less than 2 mg. per square foot of surface, while 99% of the samples



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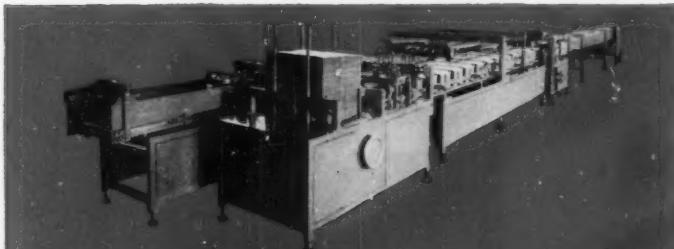
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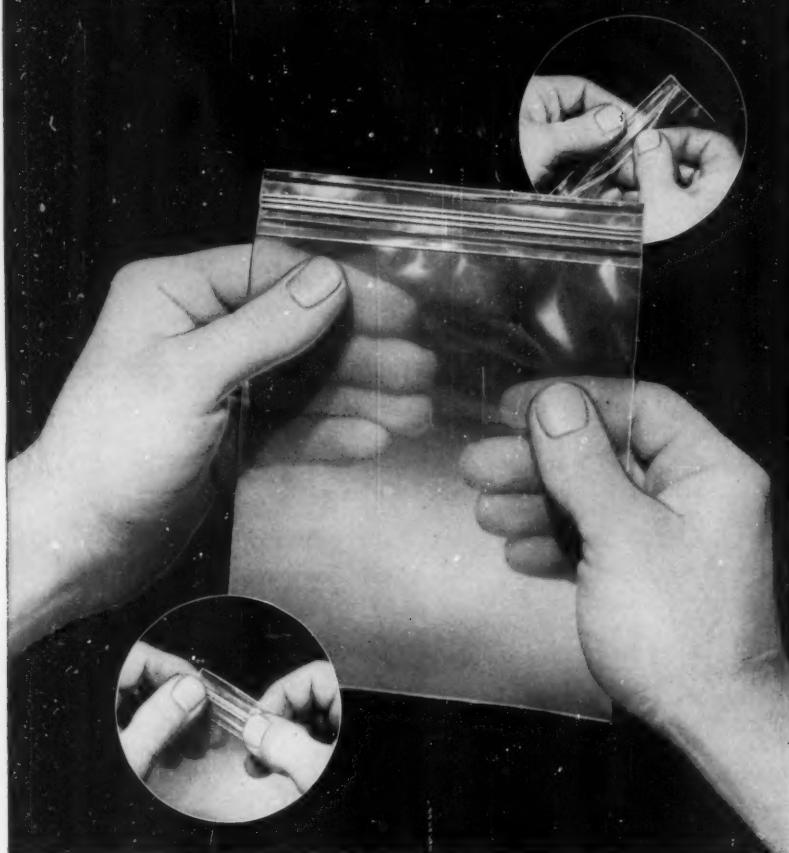
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would have less than 2.25 mg. (three standard deviations).

(B) *Ultraviolet absorbance.* The data for ultraviolet absorbance of the oil residues extracted from foil surfaces have been summarized in Tables II-VI. Readings were made at the five wave lengths suggested by Haenni and Hall (1)[†], viz., 275, 295, 300, 350 and 400 millimicrons. While the average values show the same correlation with gauge and heat treatment observed in the case of the residue weight, as would be predicted, absorbance values are so low as to be considered negligible.

Discussion

While no questions have been raised regarding the suitability of aluminum foils as food-packaging materials, the ultimate purpose of the study reported here was to provide the analytical information needed to evaluate the significance of the residues known to exist on all aluminum foils. Quantitatively, it is seen that the highest average values were found on heavy-gauge (5.6 mils), hard (unannealed) foils where amounts may be encountered on occasional samples (less than 1%) which may exceed 2.25 mg. per square foot.

Assuming that a typical application rate of foil in food packaging is about 1 sq. ft. per pound of food and, further, that 100% of the residue migrates, it is clear that the maximum level of transfer of rolling-oil residue to food would be less than five parts per million. For the large majority of aluminum foils, the amount of residue migration would be considerably less.

For practical reasons, the *total residue* from a specific area of foil surface was measured, spectrophotometrically, in a known volume of solvent. The decision to define these factors as 30 sq. ft. of foil surface and 100 ml. of solvent, while more or less arbitrary, represents the maximum degree of exaggeration practical from a lab standpoint.

With respect to domestically produced aluminum foils intended for use in direct contact with food, it is suggested that the data obtained in this study provide the basis for establishing criteria for defining good manufacturing practice insofar as the amount and ultraviolet absorbance of residual finishing oils

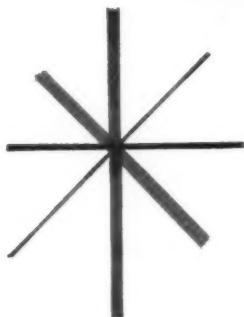
[†]Numbers in parentheses identify References appended.

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are concerned. An example of such a use of these data is shown in Table VII, wherein the values given represent the average for each observation plus three times the standard deviation found for heavy-gauge, unannealed foil. Lighter-gauge, annealed foils would fall below these suggested range limits.

Summary

A collaborative study has been conducted by the laboratories of eight manufacturers of domestic aluminum foil to determine the amount and character (as measured by ultraviolet absorbance) of the rolling-oil residue remaining on the finished foil surface. A total of 292 samples representing thin and heavy-gauge foils, both before and after annealing, were examined. The foils tested were from regular commercial production and constituted a cross-section of products currently in distribution.

The data obtained show that the vast majority of foils retain less than 2 mg. of residue per square foot of surface which, when extracted into iso-octane at the rate of the total residue from 30 sq. ft. of surface dissolved in 100 ml. of solvent, shows negligible ultraviolet absorbance in the range of 275-400 millimicrons.

It is concluded that current manufacturing practice results in the production of aluminum foil which readily meets specifications compatible with its acceptance as a safe packaging material for foods and, consequently, is considered "generally recognized as safe" as defined in the Food Additives Amendment to the Federal Food, Drug & Cosmetic Act.

Acknowledgments

Members of the Foil Div. of The Aluminum Assn. who supported this research are: Aluminum Co. of America, Anaconda Aluminum Co., Consolidated Aluminum Corp., Kaiser Aluminum & Chemical Corp., Republic Foil, Inc., Revere Copper & Brass, Inc., Reynolds Metals Co., Standard Packaging Corp. (Johnston Foil Div.) and Stranahan Foil Co., Inc.

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1. Haenni, E. O., and Hall, M. A., *J. Assn. Offic. Agr. Chemists* 43, 92 (1960).

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BROCKWAY



VISION IN GLASS



These party-goers take their 'cheer' through glass, too

And the glass they take their 'cheer' through are no-deposit, no-return bottles. When the party is over, mom simply will throw the empties away. She, dad or the kids won't have to bother exchanging for a new supply. Like millions of other American families, they believe in *one-stop shopping* for beverages that retain their thirst-appeal in no-deposit, no-return bottles. BROCKWAY VISION IN GLASS has a wide range of sizes, shapes and capacities of these sales-producing bottles to help you keep these families happy.



COMPANY, INC., Brockway, Pennsylvania

Sales Offices in Principal Cities

SUBSIDIARIES: Demuth Glass Works, Inc., Parkersburg, W. Va.

Tygart Valley Glass Co., Washington, Pa.

Celluplastics Inc., Newark, N. J.



Brockway, first name in containers for:

foods	pharmaceuticals and proprietaries
prescription ware	beverages
beer	liquors
plastic containers	vials and tubing

Integrity in glass since 1907

Prices of corrugated cartons up

Corrugated cartons are now costing packagers from 10 to 14% more as a result of general price increases announced last month by major suppliers. Leo H. Schoenhofen, president of the Container Corp. of America, explained that corrugated shipping containers have been at their lowest price level in a decade. This situation, combined with increased costs, have resulted in "unsatisfactory profits," he said.

Crown Zellerbach made the first move, raising prices for customers east of the Rockies effective Sept. 1. International Paper, St. Regis, Union Bag-Camp Paper, Inland Con-

tainer, Packaging Corp. of America and Continental Can, along with Container Corp. and others, then raised their prices, to become effective on various dates ranging from Aug. 15 to Sept. 1.

Also on Sept. 1, Continental Can raised by \$9.50 per ton the price of corrugating medium, used in making corrugated sheets. W. M. Allin, vice president of the company's paperboard and kraft paper division, said that "although production costs have been steadily rising, the new rates for corrugated cartons are still below the pricing levels of those as far back as 1956." ●

For GM, 1,200 designs on a single standard

[Continued from page 128]

portion of the carton's end panels.

End-panel logotypes may be one or two lines depending on package proportions. Their size is determined by the proportions of the end-panel color bands; the size of the end-panel symbol is in turn controlled by the size of the logotypes. The symbol is always 2½ times the height of the "D" in Delco.

A black band covers the bottom surfaces and extends upward into the side panels in the same proportions as the color band. This dark base was specified for its appearance of stability, which keeps the packages from looking top-heavy, and also because it serves as another unifying factor for the different package sizes and shapes.

As far as their proportions will allow, cans, drums, tubes and other package types are handled the same as cartons. Corrugated shippers may be printed or labeled. Either way, they follow the pattern except that for one-color printing on corrugated, reverse printing substitutes for the regular two-color design employed on other packaging.

GM has found that many division managers are so excited about the new packaging that they want to upgrade their shippers by using two-color printing or white outer liners.

The strict rules for logotype and symbol proportions, size of type, etc., are deliberately broken in some cases. This is true of very tiny packages, for instance, or unusually large ones. These "mavericks" were sub-

mitted by the divisions to the Styling Staff for special rulings. In each case the three-dimensional or shelf effect from a distance of several feet was the prime consideration — whether the package could be instantly and unmistakably identified as a Delco product.

Some deviations were even allowed in divisional brand names. The Detroit Transmission Division, for example, is allied with the program in all but name. Its name has remained for business reasons.

United Delco's heavy consumer advertising campaign now getting under way does not mention the packaging change specifically. However, several new packages are prominently featured in each illustration or TV commercial. The theme, "Simply Say Delco," emphasizes the new design unity.

GM realistically accepts the fact that the average driver won't raise the hood to determine what brand of parts has been used to repair his car. But since most automotive repair shops stock only a few most-used parts and order the rest from distributors as needed, specifying a brand is practical. GM now has made it easier. The corporate program urges the car owner to ask for Delco parts; the new packaging allows distributor and repairman to follow through without effort. It is expected to have tremendous effect on both the packaging and the marketing practices of the entire automotive-parts industry. ●

NEW ERA
MANUFACTURING COMPANY



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COMPLETES PRESSURE-SENSITIVE LABELS in one pass!

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- ① **SELECT** the items you want
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- ③ **FILL IN** the information requested
- ④ **MAIL** — no postage required

EQUIPMENT • SUPPLIES • SERVICES

AUTOMATIC FILLING AND LABELING. 16-page catalogue illustrates and describes full line of automatic filling and labeling equipment, including "Volumatic" pressure filler for continuous filling of viscous and semi-solid products. Biner-Ellison Machinery Co. (150-I)

ADVERTISING SPECIALTIES. Colorful forty-page catalogue presents advertising specialty items with full data and prices. Catalogue includes order form and samples of promotion material. American Advertising Specialties Co. (151-I)

SEMI-AUTOMATIC LABELER. Illustrated brochure describes a versatile labeler that will handle all sizes and shapes of containers from ampules to gallons. Brochure gives specifications and capacity. Atlas Labeling Machine Corp. (152-I)

FROZEN FOOD SHIPPING AND STORAGE CONTAINERS. Ten-page reference file describes shipping containers which will hold 1500 lbs. of food at freezing temperatures for hours without refrigeration or dry ice. Reference file gives data and shows application for transporting frozen food between wholesalers and retailers. Avco Corp. (153-I)

VACUUM-SEALER. Eight-page brochure illustrates and gives data on complete line of different sealers for plastic materials. Also included is a packing machine consisting of a wrapping and folding unit which wraps oblong or square packages semi-automatically in cellophane, foil, film, wax paper, and kraft. Bedford-National Co. (154-I)

TESTED PACKING METHODS. Sixteen-page "idea book" lists twenty tested methods to improve packing and shipping operations. In addition it describes uses of both electric and manual sealing machines. Better Packages, Inc. (155-I)

CUSTOM-MADE CORRUGATED BOXES. Illustrated folder describes components for a box-making system that permits you to make corrugated boxes in your plant as you need them. System includes box-maker, slitter-scoring, and taper. Colt Packaging Machinery Co. (156-I)

EXTRUSION COATERS. Eight-page brochure illustrates and gives specific structural data of extruder and dye equipment, laminator and auxiliary items. Extrusion coaters are built for speeds up to 1500 fpm and provide a wide range of coating thicknesses. Frank W. Egan and Co. (157-I)

AIR-DRY FILM LUBRICANT. Four-page brochure describes a new air-dry solid film lubricant which can be applied by spraying, dipping or spray tumble and affords corrosion resistance. Electro-Film, Inc. (158-I)

ROW TRANSFER PALLET LOADER. Four-page brochure illustrates and shows application and special features of a new pallet that is fully automatic and of high-speed row transfer type. Engineered Handling Systems. (159-I)

Manufacturers' Literature

Described below . . . the latest literature, catalogs and brochures from the packaging industry. Dollar saving and dollar making ideas and data . . . available without charge.

AUTOMATIC PACKAGE R. Brochure illustrates a complete automatic packaging system for shrink wrapping trayed produce. Requires minimum of floor space, wraps, seals, and delivers twenty-four packages per minute. Formatron, Inc. (160-I)

TESTING INSTRUMENTS. Twenty-eight-page illustrated bulletin lists optical and physical test instruments for testing paint, paper, plastics and other materials. Bulletin gives specifications and prices. Gardner Laboratory, Inc. (161-I)

POLYVINYL DISPERSION. Fourteen-page booklet illustrates and discusses chem-o-sol, a new coating and molding material which is a specially formulated, high molecular weight, polyvinyl dispersion. The booklet describes the properties and various application methods. Chemical Products Corp. (162-I)

CAST POLYPROPYLENE FILMS. Twelve-page technical booklet provides information on the processing of cast polypropylene films. Booklet points out that crystal clarity and toughness combined with high resistance to greases, moisture and many common chemicals are the properties that make profax polypropylene films highly useful. Hercules Powder Co. (163-I)

CORRUGATED FIBERBOARD COATING. Four-page brochure gives description of Nomar, a coating for corrugated fiberboard that prevents product damage due to abrasion without leaving unsightly deposits on the product. Island Container Corp. (164-I)

JEWEL CASES. Illustrated catalogue sheet shows a variety of ring, earring, watch and other jewelry boxes available in three different coverings. The Jewel Case Corp. (165-I)

SHIPPING BAGS. Three reference file sheets illustrate how Jiffy shipping bags solved problems for three different companies. The reference sheets point out that the bags give safe dependable protection, speed packing, and have other advantages for the shipping of many products. Jiffy Manufacturing Co. (166-I)

CARTONING EQUIPMENT. Eighteen-page booklet illustrates cartoning systems, presents various types of products that are being cartoned economically, on the semi and fully automatic machinery. Booklet is indexed and gives data and specifications. R. A. Jones Co. (167-I)

ANTI-WRINKLE SLAT EXPANDER. A non-technical data sheet illustrates and describes anti-wrinkle slat expander which eliminates wrinkles in plastic films and fabrics during continuous roll operations. It is effective on films, fabrics, laminations, etc. Kay Machine Co. (168-I)

POLYSTYRENES AND POLYETHYLENES. Four-page binder insert describes Dylene, polystyrenes and high-density polyethylenes. Illustrated are the many products made from the materials including toys, typewriters, and various containers, plus clocks, radios, and televisions. Koppers Co., Inc. (169-I)

COUNTERS, CONVEYORS, AND COTTONERS. Three-page reference file illustrates and describes packaging machinery. It includes tablet and capsule counting machines in three sizes—8-inch, 16-inch, and 26-inch. Completely automatic Model 52 Cottoner inserts coil with no wisps or strands above top of bottle. Adjustable to insert lengths from $2\frac{1}{2}$ inches to 7 inches. The Lasko Co., Inc. (170-I)

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Manufacturers' Literature

Described below . . . the latest literature, catalogs and brochures from the packaging industry. Dollar saving and dollar making ideas and data . . . available without charge.

- ① SELECT the items you want
- ② CIRCLE the corresponding numbers on the post card
- ③ FILL IN the information requested
- ④ MAIL — no postage required

EQUIPMENT • SUPPLIES • SERVICES

CENTRALIZED LUBRICATION. A thirty-four-page catalogue describes complete line of centralized lubrication equipment. Data covers automatic, semi-automatic, and manual methods of operation and lists installation accessories such as tees, hose, flexible feed line, etc. Lincoln Engineering Co. Industrial Sales Division. (171-I)

NEW CORRUGATED CONTAINERS. A unique brochure which folds into a replica of a shipping container with pouring spout. Describes these new containers which are designed for automatic packaging of dense or fragile products and are tailored to specific needs. Mead Containers, Division of the Mead Corp. (172-I)

URETHANE FOAM PROTECTION. Sixteen-page booklet illustrates and gives facts about Urethane Foam's packaging properties. Advantages to the industrial and commercial packager are discussed in detail. Mobay Chemical Co. (173-I)

TAGS AND LABELS. A complete spiral-bound catalogue describes tags and pressure sensitive labels. Catalogue, indexed and in full color, gives data and accessories. Free design service and quotations. The National Tag Co. (174-I)

AUTOMATIC LOCKING CARTON. Folder shows in pictures patented Lok-Box and how it snaps shut and locks automatically to avoid pilferage, eliminate steel strapping, or crating. Consists of a regular slotted container, a bottom tray and a top tray with two cardboard endlocks. Easy to open with nylon tear-tabs, the Lok-Box is reusable. Massillon Container Co. (175-I)

NEW SOLID PAPERBOARD. Four-page brochure illustrates and describes a new solid paperboard produced entirely from virgin pulpweds. It is designed for a wide range of packaging requirements. Brochure also outlines completely integrated facilities of producer. Packaging Corp. of America. (176-I)

COMPLETE EXTRUSION SYSTEMS. Large fold-out brochure illustrates and gives specifications of Prodex extruders, blow molders, mixers. Prodex high-torque extruders with chain gears makes possible extrusion of both high and low viscosity materials at maximum h.p. efficiency and output. The blow molders described are continuous parison and accumulator types. In addition, Prodex-Henschel mixers are shown in four sizes. Prodex Corp. (177-I)

MATERIALS MANAGEMENT. New 16-page brochure explains in detail the "warehousing" approach to management of materials flow. Illustrates equipment and techniques for large storage and transportation of raw materials and finished products. The Rapids-Standard Co., Inc. (178-I)

PLASTICS PRODUCTS REFERENCE FILE. 12-page booklet describes the physical properties and suggested uses of a full line of products, including polyvinyl formal, polyvinyl butyral, polyvinyl alcohol, and polyvinyl acetate, resins, and spray-dried powders. Shawinigan Resins Corp. (179-I)

AEROSOL AND JAR CAPS. Two reference cards illustrate a representative selection of Aerosol Protective Domes and Unishells for jars, breastfed cans and Crown Cans. Photos show wide variety of styles and design. Sterling Seal Co. (180-I)

STEEL STAMPS. Folder discusses and describes various applications of embossing and debossing dies and describes engineering services available in creating marking tools. Sossner Steel Stamps, Inc. Co. (181-I)

TIGHTENER AND SEALER. Illustrated bulletin describes the PHDX tightener and PKU sealer which operate with compressed air. This air-powered tightener tensions 1/4-inches and 3/8-inch heavy duty strapping up to two thousand pounds at 90 p.s.i. Stanley Steel Strapping Div. The Stanley Works. (182-I)

HIGH INTENSITY STROBOSCOPE. Four-page bulletin describes Model 510-AL high intensity Stroboscope. Bulletin gives the unique features and technical data with illustrations. Herman H. Sticht Co. Inc. (183-I)

PLY BOND TESTER. An illustrated data sheet describes a new ply bond tester which was created for physical testing of laminated products, gum, tape, and other packaging materials requiring high strength. Data sheet gives diagrams and prices. Testing Machines, Inc. (184-I)

IN-LINE CHECKWEIGHING. Eight-page brochure illustrates automatic in-line checkweighers and accessories and describes how they automatically provide 100% in-line, in-motion inspection of a broad range of package sizes and weights. Toledo Scale, Division of Toledo Scale Corp. (185-I)

COATING AND LAMINATING EQUIPMENT. A six-page binder insert illustrates equipment for extrusion coating and laminating, including an integrated web process system. Diagram shows automation principle and simplicity of operation. Waldron-Hartig. (186-I)

LABEL NUMBERER. Illustrated bulletin describes numbering device for label printing machines. Many applications are possible, including labels for shipping, product identification, production, etc. Weber Marking Systems, Inc. (187-I)

STANDARD AND SPECIALTY CONTAINERS. Sixteen-page full-color booklet describes process of creating paperboard, boxboard, corrugated cartons, specialty boards and other cartons for a wide variety of products. It shows the manufacturing process of these containers, their design and quality control. Weyerhaeuser Co., Boxboard and Folding Carton Division. (188-I)

PACKAGE CUSHIONING. A series of case histories, illustrated and in folder describes how Tufflex cushioning has been successfully used to solve packaging problems. Each case history is presented with step-by-step details of the packaging problem and its solution. Wood Converson Co. (189-I)

AUTOMATIC WRAPPING AND PACKING. Four-page brochure illustrates and gives diagram of how "Trimatic" automatically wraps and packs. Brochure gives specifications and special advantages of Trimatic. Wrapmatic. (190-I)

AUTOMATIC PACKING AND WEIGHING MACHINES. Sixteen-page reference file illustrates and describes a variety of weighing and packing machines. For instance, Hy-Tra-Lac weigher, accurately weighs and fills dry, free flowing products into bags or boxes on semi-automatic packaging lines. It handles potato chips, pretzels, pork skins and similar products. Wright Machinery Co., Div. of Sperry-Rand Corp. (191-I)

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BUSINESS REPLY MAIL

First Class Permit, No. 2656, New York, N. Y.

MODERN PACKAGING

Village Station Box No. 103

New York 14, N. Y.

Multiple, Semi-Automatic Filler



**MODEL B-49
STRAIGHTLINE
VACUUM FILLER**

Fills 4 to 9 containers simultaneously. Lever engages and disengages filling stems, otherwise operation is automatic. Adjustable for container heights up to 14". Stainless steel construction; plastic available. Discharge conveyor optional. Write for "Bulletin B-49."

**LOOK TO U.S. FOR EVERY
LIQUID FILLING NEED!**

- Fully Automatic
- Semi Automatic
- Hand Fillers



YOU CAN spark your entire packaging operation with the right filler. Anything short of that can snarl your packaging pace. With a half century of experience in liquid filling, our engineers can specify filling procedure that will head your packaging operation most economically. Our recommendations will not obligate you. Please send sample of product, a dozen containers of each size to be filled and advise desired filling rate per minute, hour or day. Address our home office.



Steady Filling

MODEL B-2 VACUUM FILLER. Fills 2 containers while 2 filled containers are being removed and 2 empties loaded. Thus, filling is continuous. Handles containers up to 4½" dia., up to 13" high. Stainless steel construction. Plastic available. Portable. Filling is fast, efficient. Write for "Bulletin B-2."

**For All Liquids
All Containers**

Also for foamy products that do not permit agitation. Stainless steel filling tubes. Fill controlled automatically. Glass lined tank. No power required. Product supply regulated. Write for "Siphon Bulletin."

Hand Filler. A precision unit of high quality for efficient filling. Write for "Hand Filler Bulletin."



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at Low Cost with**

**PARTITIONS
• Sleeves • Necks •
FOR PROTECTIVE
PACKAGING**



WRITE, PHONE, WIRE for QUOTATIONS on YOUR REQUIREMENTS

Peter Partition Corp. operates one of America's largest plants devoted exclusively to the production of cardboard partitions.

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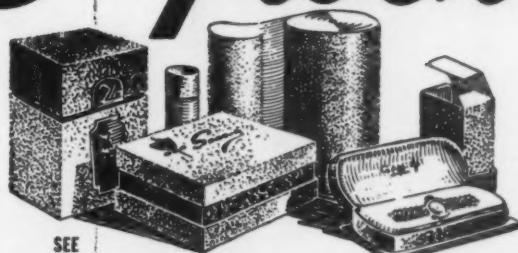
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YOUR
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FOR:
Flock-Attached
Papers
...IN ROLLS
Boxboard
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(18 brilliant colors)

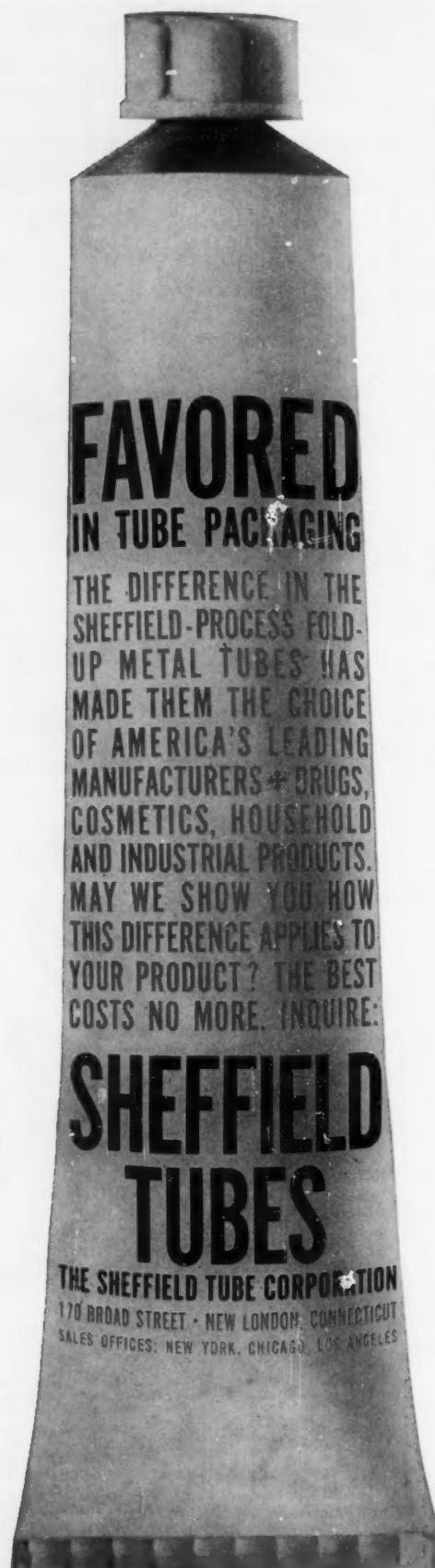
—Claremont Flock... those tiny clipped-lengths of luxurious cotton and regal rayon. We market this irresistible outer raiment in bulk to paper processors, product manufacturers, packaging specialists and display builders who, for dramatic enrichment, apply it to paper, glass, metal, cork, plaster and similar materials.

Flock is a fascinating stimulant—and for pennies, an ounce adds a pound of allure. Check your suppliers—or, for complete information, feel free to contact us direct.

CLAREMONT FLOCK CORPORATION

The Country's Largest Manufacturer of FLOCK

CLAREMONT, NEW HAMPSHIRE



British packaging show

Advance information from exhibitors reveals a heavy concentration of new packaging machinery at the Seventh International Packaging Exhibition at Olympia in London, running Sept. 5-15.

Of particular note are many automatic and semi-automatic wrapping machines and a sizable number of bottle fillers, cappers and labelers which reportedly will be on view.

On the materials side, suppliers are planning significant displays of new films, containers and closures. According to latest information, plastic films will get major attention.

Concurrent with the exhibition will be a symposium on "Consumer Goods Packaging for Export," organized by the British Institute of Packaging and the Western Hemisphere Exports Council. •

Closing problem solved

[Continued from page 140]

bar on the air-jet side of the belt is used in place of the fixed side rails and an overhead support rod is positioned to stabilize caps that are right-side up. This rod will not engage the concave side of an upside-down cap, thus permitting it to turn. The spring bar assists the air jet in spinning each misaligned closure.

With either type of closure, the belt pulls the aligned caps to the top of the machine, where a drum pulley pushes the caps out of the belt. Caps are then slid into a chute that discharges them at the rotary vacuum closing machine.

Filled containers are timed and positioned by two variable-speed star wheels under this vertically mounted wheel, which forces the plug fitments into place. Prior to closing, the rim of the filled container is moistened with perchloroethylene solvent by means of a rotary felt roller. This solvent has the effect of softening the polystyrene cap and acts as an adhesive.

In addition to speed and simplicity of operation, this unscrambling system also minimizes tumbling and surface abrasion on closures and thus protects delicate finishes or printing. Therefore, we believe that this new principle of unscrambling could find wide application with many types of closures where high-speed packaging is desired. •

BOLD AND BRILLIANT
FAST SETTING
QUICK DRYING
FOR LETTERPRESS
AND OFFSET...

SPEED KING CARTON INKS

The quick set, fast dry and high gloss of IPI's revolutionary Speed King inks for general commercial use are now available to package printers!

Speed King Carton inks set so fast—even on patent coated boards—that offset rarely is a problem. This means higher press loads without racking, less handling, and considerably less spray than needed for conventional gloss carton inks.

Speed King's gloss on clay coated and on cast coated stocks such as LUSTERKOTE, KROMEKOTE, ULTRA-GLOSS, etc., rivals that of the finest gloss carton ink. And because it's a more uniform gloss, even lower cost stocks print better!

Speed King's split-second set and amazing dry (as little as 2 hours) mean faster processing of the printed board—with obvious advantages to the carton printer.

Speed King is stable on the press; halftones don't muddy up, small type stays open.

Equally important, there's extra "mileage" in every can—and that means more cartons per can!

These wonderful new inks—both letterpress and offset—are now available from your nearest IPI branch, in a wide range of popular carton colors.

Try them on a really tough job—and see the definite difference!



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FAST PACKAGE SIZE CHANGEOVER FOR FROZEN FOODS



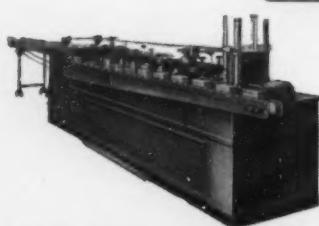
WITH CECO MODEL 40LL

AUTOMATIC CARTONER

- Changeover from one size to another takes less than ten minutes.
- Handles any size frozen food package at speeds up to 90 per minute.

Here at relatively low cost is the perfect combination of speed and flexibility. With the product inserted manually, the CECO Model 40LL handles edge lock or center lock cartons fully automatically from hopping through closing. For full details write for Model 40LL Brochure.

CECO



**CONTAINER EQUIPMENT
CORPORATION**

78-88 LOCUST AVENUE, BLOOMFIELD 3, N. J.

Packaging Institute Forum to hear Sen. Hart

A non-packaging man who is making packaging news will be one of the featured speakers this year at the Packaging Institute's 23rd Annual National Packaging Forum. He is Sen. Philip A. Hart (D., Mich.), chairman of the Senate Subcommittee on Antitrust and Monopoly, whose committee is in the midst of investigating so-called "deceptive packaging."

The forum will be held Oct. 18-20 at a different New York hotel, the Biltmore. Until recently New York sessions of the forum have taken place at the Statler-Hilton. Sen. Hart will address the "Thursday Mid-Forum Luncheon" on Oct. 19, speaking on the subject, "The Hearings on Packaging and Labeling Practices and Your Package."

Another Federal Government problem for packagers—the Food Additives Amendment to the Food, Drug and Cosmetic Act—will be given a full morning's attention on the last day of the forum when four packaging executives will discuss the effect of the law on paperboard, paper, adhesives, and foil and film laminates. This is one of three concurrent seminars that day.

This year's forum agenda lists 52 seminar speeches, four panels and five feature speeches.

Following the P. I. President's

opening address and a United Airlines presentation Wednesday morning, Oct. 18, William M. McFeely, vice president of the Riegel Paper Co., will deliver the keynote address at the opening luncheon. His subject, "The Broadening Horizons of Packaging Technology," is the theme of the forum.

Afternoon seminars which are scheduled that day will cover research and development, marketing and bulk packaging.

Thursday morning seminars on production line and machinery, paperboard and package testing will be followed by Sen. Hart's speech and, in the afternoon, by seminars on drug and pharmaceutical, industrial and food packaging.

The annual President's Reception and P.I. Awards Dinner take place during that evening.

Friday morning's seminars on flexible packaging, adhesion and food-additive problems will precede a "Friday Wrap-Up Luncheon" speech by Robert D. Glidden, vice president of the Personal Products Corp., on "Your Future Package and You."

Complete details of the forum schedule with all seminar and speech subjects and participants' names will be published in the next issue of MODERN PACKAGING. •

Hazardous-substances labeling action

February 1, 1962, is the new target date for enforcement of penalty provisions of the Federal Hazardous Substances Labeling Act, the Food & Drug Administration has announced.

This replaces a previous Aug. 1 deadline. The new date, like the old, applies to all hazardous substances except those which are highly toxic, extremely flammable and flammable. Penalties for improper labeling of the latter products went into effect last Feb. 1 and continue in effect.

The extension, second in the short life of the act, was caused in this instance by the time needed to consider comments received from interested associations, companies and individuals, and the time required to issue final regulations, according to F&DA Deputy Commissioner John L. Harvey.

Under the law, the administration can extend the effective date up

to 18 months, or until Feb. 1, 1962.

There is, however, a chance that there may be an additional one-year extension, to Feb. 1, 1963.

The Chemical Specialties Mfrs. Assn.—an organization which represents many products covered by the Hazardous Substances Labeling Act—has petitioned for an amendment which would extend the compliance date for an additional 12 months. CSMA points out that the Government has not yet published final regulations covering the definitions of a number of hazards in products affected by the law. Therefore, says CSMA, even if the regulations become available to industry early in the autumn, it would be physically impossible for many packagers to accomplish the production, inventory and distribution procedures necessary to comply with the requirements by next Feb. 1. •

**"We use FMC HUDSON SHARP
Flexographic Presses exclusively in
our production of top quality
materials for packaging"**

W. T. "Bill" Winn, Chairman of the Board
Cello-Vision Corporation, Minneapolis.

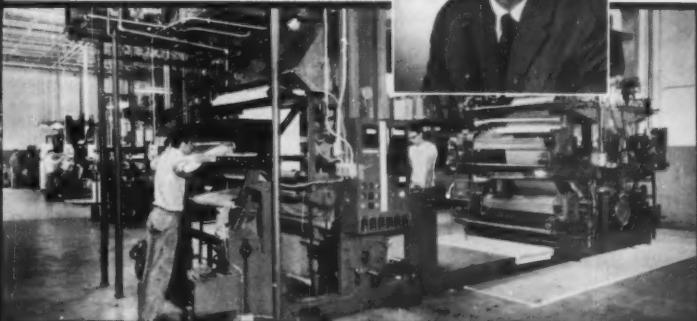
Our experimental days are over" says Bill — "After first using presses of other manufacture we concluded only Hudson Sharp Single Impression Drum presses could meet our exacting demands for the finest quality color register printing on Poly, Cellophane and other film material."

H-S's latest press features are really something! • Dancer controlled electric brakes on unwind spindles for positive tension control from unwind to variable speed infeed • Push button automatic two-motor flying splice with provisions for winding print inside or outside • Air-loaded, score-type web slitters at rewind • Dove-tail ink roll and plate cylinder frame mountings for fine adjustment and absolute positive lock-up • Independent variable speed drive to fountain rolls • Water cooled impression drum • High velocity, jet-type, hot air dryers for maximum speeds consistent with newest inks and solvents • Additional chill rolls for back and front web cooling at highest running speeds • Other features available include: Automatically lubricated plate cylinder bearings; catwalk and elevated mounting for main drive motor and hydraulic reservoir; manual or electric plate cylinder hoists. Write today for more details on the industry's most productive press.



The press room of Cello-Vision Corporation, Minneapolis is completely Hudson-Sharp equipped. Foreground at left shows an A-4 press with 5th color added and another model A-4 directly to the right. At the extreme left (out of view) is a model A-5.

R. J. Wesley, President



E. H. Rendahl, Vice President

Newest H-S press at Cello-Vision is a model A-6, shown in the foreground at right. The Cello-Vision Corporation is one of the Midwest's prime producers of highest quality color screen process and line color printing on all types of films for packaging.



Putting Ideas to Work

**FOOD MACHINERY AND CHEMICAL CORPORATION
FMC Packaging Machinery Division**

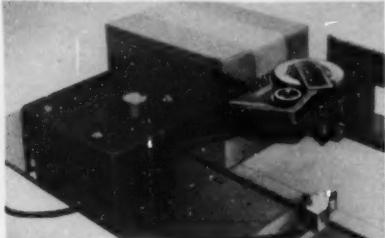
Hudson-Sharp Machine Company
1201 MAIN STREET, GREEN BAY, WISCONSIN

Marking Ideas for People who Package ... No. 7

from GOTTSCHO

DOUBLE-DUTY MARKER

The "251 Rolacoder" is a new coding attachment for conveyors and case-sealers that rolls a mark along the side surface of a corrugated box, then continues to imprint the same or a



different mark on the rear surface—all in a single smooth action. The coder does not interfere with the cases in their travel; nor does it require the use of turners. After each case has received its marks the marking wheel automatically retracts and repositions itself to mark the next case. The coder is available with either long-mileage liquid ink reservoir or "Magic Inking Roller" of Porelon* micro-porous plastic. (G-1)

* A registered trademark of S. C. Johnson & Son, Inc.

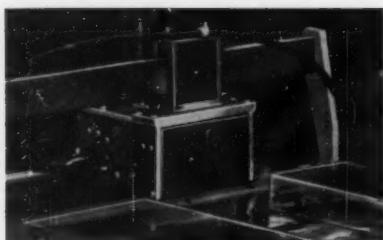
LOW-COST PRINTER

An inexpensive machine that is especially useful for imprinting sheets, bags, cartons, cards (such as used for blister packages) and cases in the flat has just been introduced here by Gottscho. It prints virtually anything to $\frac{1}{2}$ " thick—cellophane, plastic, paper, corrugated, plywood, etc. The "Printall" machine is outstanding for the simplicity of its design, its first-cost and operating economy, and its production efficiency. It is available in a variety of sizes to print 1 or 2 colors on one or both sides, with manual or automatic feed. Using rubber printing plates and fast-drying flexographic inks, the "Printall" machine requires no complicated makeready nor adjusting—just one simple control automatically governs both printing impression and ink transfer. (G-2)

Visit Gottscho Island at the PMMI Show

Want to see the largest and most comprehensive line of package coders, markers and imprinters ever shown at one time? Then come to the mammoth 800-sq. ft. island display of Gottscho machines to be exhibited at the Packaging Machinery Manufacturers Institute Show in Detroit, November 7-10. 24 different machines, many either new or improved, will be demonstrated in the Gottscho booth, and a large contingent of experts will be on hand to explain their uses and advantages.

BOOTH 519 - PMMI SHOW



"X" MARKS THE SPOT

A new pouch forming machine with a Gottscho "700 Rolaprinter"® as its "heart" has been introduced by Battle Creek Packaging Machines, Inc. The "Rolaprinter" imprints guide marks on the film web to indicate where the operator should place the objects being packaged so they will be automatically

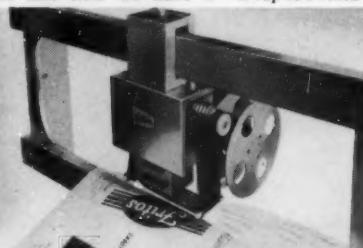
centered in the resultant pouch. The machine has two control dials—one dial governs the length of the cutoff, the other governs the center-to-center distance between the "Rolaprinter's" impressions. (G-3)

"PRINT-YOUR-OWN" GROWING

More and more unit packs, bags and wraps are being in-plant printed these days as packagers find how practical it is to print as part of the packaging operation. Use of Gottscho "Rolaprinter" or "Wrap-A-Printa" attachments—plus a little imagination—makes it possible to print trade-marks, reverse designs, other complex elements . . . even in multicolor . . . with results that often look like first-class professional printing. Advantages of do-it-yourself printing are the economy, inventory savings, and flexibility derived from being able to use inexpensive unprinted stock and quickly change over from one design to another. Gottscho will be happy to consult with you on the best methods for printing packages as you make them. (G-4)

NEW BIGGER, SMALLER MODELS

Popularity of the Gottscho "Wrap-A-Printa"® dry process ribbon leaf imprinting attachment has led quite naturally to expanded development of this line. At one end of the line now we have a "Wrap-A-Printa"



able to make impressions up to 4" x 4"—ideal for printing the entire copy on a package or imprinting two or more widely separated changeable legends. At the other end is the new miniature "Model T

"Wrap-A-Printa" (illustrated)—a low-cost, compact and simplified unit for applying codes and/or prices as part of a wrapping, bag-making or pouch filling-forming operation. Maximum imprint area is 1" x 1 1/2". (G-5)

INDENTS CODES ON CARTONS

Manufacturers who want the codes on their cartons to be legible and permanent—but inconspicuous—will welcome the news of an ingenious little device that attaches to any automatic cartoner, carton forming or carton closing machine and indents the code legends on a flap of the carton at any point prior to tucking or closing. The new "Indentacoda"® attachment takes its drive from the cartoner and is designed to register the indented legends in the same location on each successive carton. There's a model that indents from below, another from above. (G-6)

Want more info? Check off—clip—attach to your letterhead—and mail to

GOTTSCHO, Dept. A, Hillside 5, N.J.

<input type="checkbox"/> G-1	<input type="checkbox"/> G-2	<input type="checkbox"/> G-3
<input type="checkbox"/> G-4	<input type="checkbox"/> G-5	<input type="checkbox"/> G-6

Machinery Show theme

Visitors to the Packaging Machinery Manufacturers Institute Show in Detroit this fall and to the concurrent Conference-Workshop will get a heavy dose of engineering and preventive maintenance.

Carrying out the original intent of the biennial show, the 1961 event at Cobo Hall, Nov. 7-10, will have a strong engineering emphasis.

The conference, Nov. 8 and 9, will feature discussion groups on five phases of preventive maintenance, chairmanned by Richard Wellbrook, New Jersey Machine Corp.

Payment of the \$2 registration fee for the show will provide admission to the Conference-Workshop. •

Sounding Board

[Continued from page 67]

plant and equipment becomes obsolete or old fashioned in a short span of time. We are so busy producing these new items that it is just impossible to keep up with the new packaging ideas. We are also faced with a problem of inventories of basic materials—and it is extremely difficult to coordinate all of the things in packaging which could or should be done.

The chemical industry is so highly competitive that it is almost like a prescription business with so many new specialties coming out. Many firms like ours are faced with the problem of spending money on research into new products and have, in a way, neglected the packaging end. I believe that many new improvements could be made in our own packaging equipment, thereby saving or eliminating a certain amount of labor. There is a great need for more automation in filling and other equipment if the investment money were available.

It would almost appear that the best solution would be to knock down all of the additions and all the old buildings and start anew with entire plant and equipment, including packaging.

Most companies have merely made changes to new types of materials for the packages or new designs for existing packages rather than being concerned with the problem of new equipment and investment in packaging machinery itself. •

Printing trends

[Continued from page 118]

the press where packages are either ganged up or changed in physical dimensions from run to run. Rotary letterpress is also said to be hard to change over, while both rotogravure and flexography adjust easily to varying cylinder dimensions and thus can accommodate packages of different sizes.

Evolutionary developments are generally responsible for most of the progress in the printing of packages, but there is also the promise of revolutionary new techniques that may—at a single stroke—change the entire course of package design.

One such experimental process, electrostatic printing, is now being developed at the West Coast laboratory of the Stanford Research Institute. Incorporating a "plate" that never touches the material to be printed, this unique method employs dry powdered inks which are sifted through a pattern in the screen-like plate and attracted by an electrical charge to the material to be printed. The inks are bonded by means of heat or solvent vapors. The process—about two years from commercial use—is said by researchers to have high resolution and to be particularly advantageous because of the lightness and simplicity of the equipment that is used and possible high speed of the operation.

The changes in both the type of design and method of printing for flexible packaging materials are in a state of rapid development—perhaps moving at a greater pace than the trends in any other type of packaging material. This creates the opportunity for both radical innovation and marked improvement in surface designs in this large area of the packaging field. •

Liquid skin for meats

[Continued from page 106]

turned off, conveyor and leveler shut down automatically. (During the working day, the plastic/wax machine runs constantly because wax not being deposited on a stack of meat is captured, filtered and returned through a manifold system to the four plastic/wax sheeting nozzles and two "bottomers.")

The leveled stack moves onto a conveyor fabricated of steel mesh

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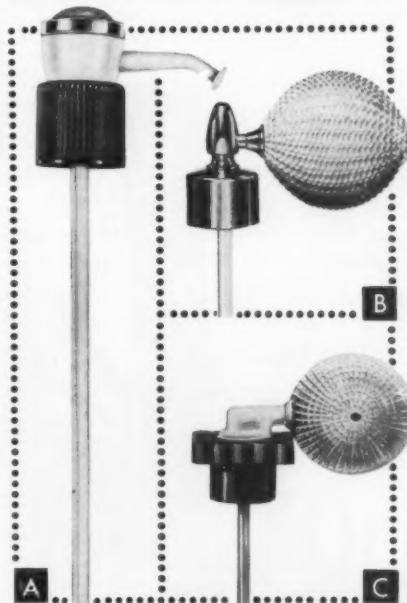
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LOTION PUMP (a) Millions of these Evans-Crowder lotion pumps have been placed on America's top products by America's leading companies. Available for liquids of any viscosity. Shippable on filled bottles. Under 6¢ each.

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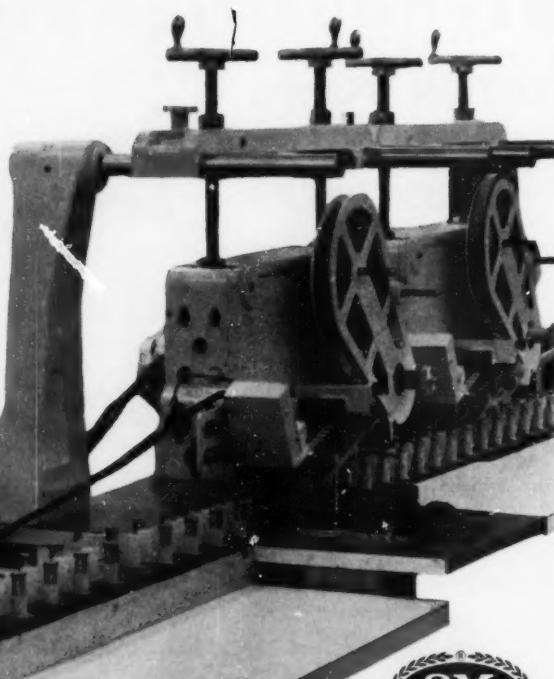
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See the Derby
Dispens-A-Ply
in action at the
PMMI Show
Nov. 7-10
Detroit
Booth #545

DERBY SEALERS DIVISION
MINNESOTA MINING AND MANUFACTURING COMPANY
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... WHERE RESEARCH
IS THE KEY TO TOMORROW

(for ease of cleaning and also to knock off any crumbs) and thence into the wax machine. The plastic wax, containing a high proportion of polyethylene, is maintained at a temperature of about 160 deg. F. and is highly viscous.

A layer of wax is rolled onto the bottom of the meat stack by the bottom device and the product passes over a set of free-spinning, heated trimming rollers to smooth the bottom wax layer. Then four film-forming nozzles, set at 45-deg. angles to the conveyor direction and producing a constant arcing sheet of liquid wax, cover all four vertical sides of the stack with a layer of wax. The height of the arcs is set to avoid coating the top of the stack. As the meat continues to move, it receives a second bottom coat of wax from another bottom. A second set of heated trimming rollers does final smoothing of the bottom. The wax surfaces meld into smooth, unbroken joints at the edges. The Stoppenbach package contains a total of 8 gms. of the polyethylene/wax.

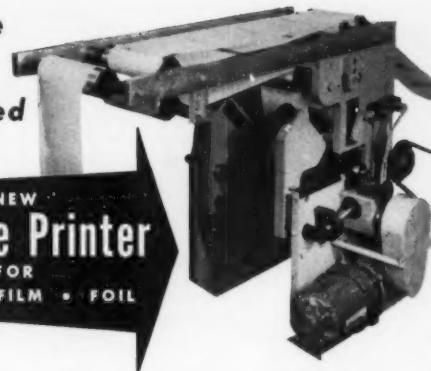
As the package emerges from the plastic/wax machine — which, to maintain wax temperature and prevent splashing, is completely enclosed except for conveyor inlet and outlet — it moves onto a conveyor coated each day with a 10% solution of sodium propionate. A tiny amount of this is picked up by the wax bottom and provides a slight, but important mold-inhibiting action.

The package then moves onto an uncoated, 3-ft. cooling conveyor and makes a 90-deg. transfer assisted by vertically mounted rollers of sponge rubber. It is allowed another 2 ft. of conveyor length for further cooling and is then lowered about 8 in. to the operating level of the overwrapper by an angled roller conveyor equipped with a top-mounted horizontal roller to prevent "piggy-backing" of the packages and to feed the packages automatically to the overwrapping machine.

A standard overwrapper then applies the shrinkable polyester film. A paper label lithographed in three colors is applied to the "blind" or waxed bottom of the package. Thus the unwaxed top surface with its window view of the product is not obscured. Finally, the package passes through a shrink tunnel, which draws the film tautly about the entire package. Finished pack-

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costly
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Save up to 50% by printing your own stock—reduce inventory and improve flexibility—eliminate the costly scrapping of obsolete or excess seasonal preprinted materials. The Pratt Roto-Printer is specially designed for in-line use with any web-fed packaging machinery and provides high quality single-color rotogravure printing on a wide variety of materials and widths. Two or three units can be combined for multi-color work. Roto-Printer is extremely compact (16" x 25") and features a constantly circulating ink supply, assuring fresh and uniform ink at all times; a separately driven printing cylinder for constant rotation preventing drying of cylinder ink; automatic disengagement and engagement of impression roll; and registration without costly photoelectric eye control for most applications. Also, units for roll to roll printing. Send for complete details today.

On display at PMMI Show, Booth 149.

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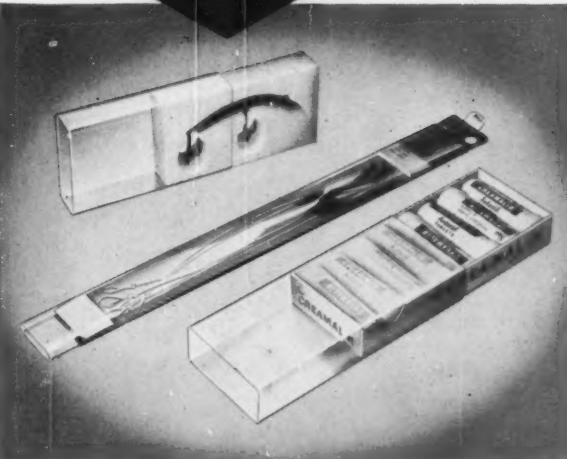
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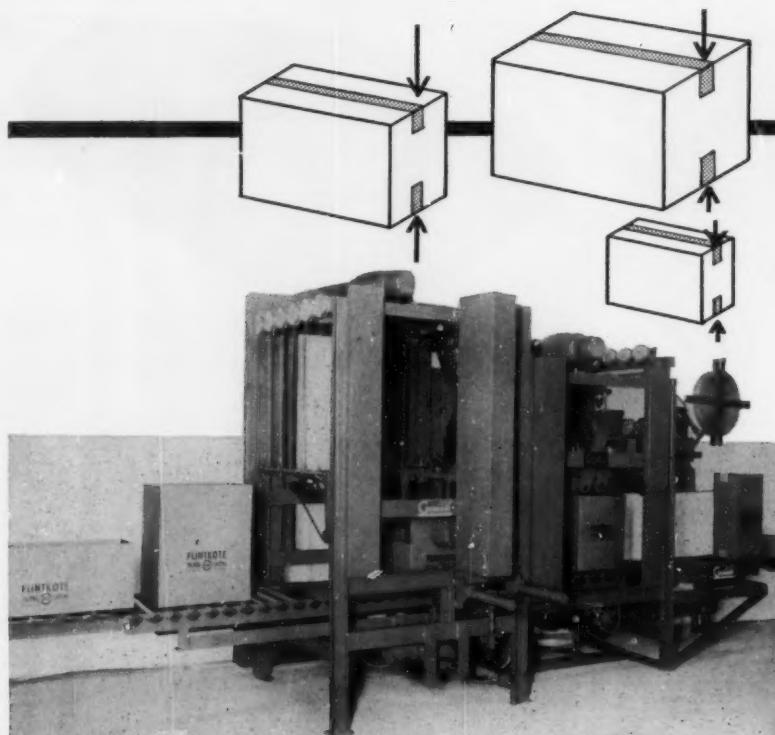
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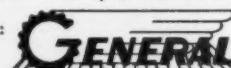
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Tape seal mixed size cases
Top AND Bottom at the
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ages are hand loaded into shipping containers.

Stoppenbach is using a 6-oz. unit for all its packaged meat varieties to encourage retail sales of three packages for less than \$1. Keeping qualities of the new package make multiple sales feasible. Also, uniform package size eliminates adjustment of the overwrapper. The plastic/wax machine, however, is designed to handle a wide range of package sizes and shapes without adjustment.

In spite of the many consumer advantages, Stoppenbach knows its new package dictates some consumer education until users become accustomed to it. So all Stoppenbach advertising during the summer months has been devoted to sliced luncheon meats, emphasizing the new package. Mobiles erected over food-store meat cases illustrate the "how to" of package use, as do Stoppenbach's new give-away recipe folders.

Stoppenbach's plastic/wax machine was specifically designed for luncheon-meat packaging. But the supplier's current development of another version to apply a transparent coating of liquid polyethylene or saran could have packaging potential for hardware, cosmetics, rust-susceptible metal parts and many other food and non-food products. •

Shock overload

[Continued from page 151]

damaged. The Tartar indicator also controls personnel handling packages. Few realize the severity of impact-type shock. Just setting a package down hard on a work bench can damage sensitive components. If this occurs, with the indicator on the package, the excessive shock is immediately obvious. Indicators provide a continuous evaluation of handling practices. If personnel get careless, indicators are tripped.

The end product of indicator use will be an improved missile reliability. Excessive shock will always weaken a package or missile. Even if it checks out satisfactorily, the probability of flight failure has been increased. If missiles are frequently subjected to shock, a reduction in over-all missile reliability is to be expected. The indicators, by advertising excessive shock, will greatly reduce the frequency of occurrence, improving missile reliability. •

MONEY GOES HIGH-FASHION

...in a package designed

by Plastene... Money is always in style, particularly when it's in an Amity Leather wallet. And what makes these wallets more appealing (even when empty) is the unique package they now come in—a molded styrene package designed and fabricated by Plastene.

This package, another Plastene 'first,' was created by one of Plastene's renowned designers, then precision-engineered and precision-fabricated by experienced Plastene craftsmen. Plastene's attention to detail, its broad skills and capabilities and its three plants strategically located in Crawfordsville, Ind., Norwich, Conn., and Anaheim, Calif., are a few of the reasons so many prominent firms order (and reorder) from Plastene. Such companies as The U.S. Time Corp. (Timex), Fram Corp., Sears Roebuck & Co., The American Thermos Products Company, Amity Leather Products Co., and Lily-Tulip Cup Corp., are among Plastene's satisfied customers.

Whatever your field, bring your packaging problems to Plastene for an economical, high-fashion solution. Plastene experts will work with you to create new packages in such materials as polypropylene, polystyrene, polyethylene, acrylic, acetate, delrin and nylon. Write today.



PLASTENE

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Design trends abroad

Of interest to many American packagers are significant examples of foreign packaging now evident in various national competitions and in the output of individual pack-

agers. Included on this page are examples of outstanding new ideas in package design, construction, surface decoration and merchandising, as well as interesting uses of both

old and new packaging materials. The Italian, Danish and Finnish items are among winners in national competitions. The Japanese packages represent one company.

ITALY



Montecatini's single-dose glass aerosol for its Timor insecticide is one 1961 winner of an Italian "Oscar for Packaging." Perforation of the closure with a pin attached to the package permits pressure discharge of the product, designed to provide sufficient insecticide for one room. The package is particularly intended for traveling and camping use. The Timor brand name is molded into the glass, but a die-cut paperboard band, which is locked under the container and has a hole in the top for the cap, bears both the brand name of the product and instructions for its use.

DENMARK

Among 28 prize-winning packages in the 1961 Danish Packaging Competition, one of the most striking is a low-density-polyethylene bottle for Bernängen Carina hand lotion (at right) cited for design, construction and sales-promotion qualities. The packager is Bernängen Febriker, Stockholm. Among other winners in brands familiar to Americans are Cherry Heering in a gift carton selected for its design, sales-promo-

tion qualities and printing technique; Lux liquid detergent in a polyethylene bottle cited for product protection, design, printing technique, advantages in use, transportation and distribution, appropriate use of new materials and economy of production, and Max Factor hand lotion, also packaged in a polyethylene bottle, singled out for its unusual design, sales-promotion qualities and originality of conception.



JAPAN



Kotobukiya, Ltd., Osaka, markets 46 types of whiskies, wines and liqueurs in graceful bottles and cartons generally labeled in both Japanese and English. Its Hermes Creme de Cacao is in white glazed pottery with a cherry-wood stopper. Bottle design is by Shigeru Ueki and the distillery's advertising department; carton design is by Kanji Sasaki. Its Creme de Thé Vert is in white mat-glazed pottery with a polystyrene cap. Bottle design is by the advertising department; calligraphy, Toko Shinoda, and carton design, Hayao Kikuchi.

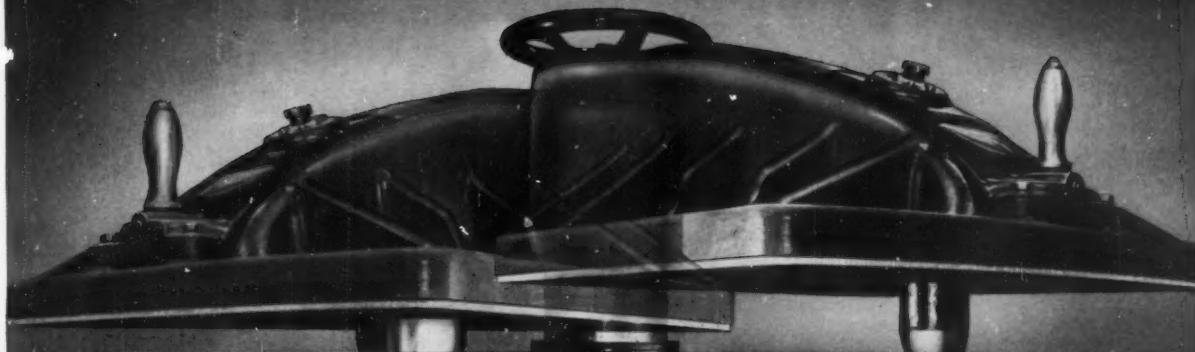
FINLAND

Bearing Beetle Bailey cartoons (known in Finland as "Masi"), these cellophane-pouched caramels (below) won a prize in that country's 1961 National Packaging Competitions. Each package contains eight candies and each wrapper has a numbered cartoon. Cartoons in a single pouch always form a complete comic strip, by the numbers. The gravure-printed package was designed by the Package Design Dept. of the Huhtamäki Combine, Helsinki, packager of the well-known Hellas line of candies, as well as several other brands.



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WITHOUT BEAM ADJUSTMENT



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For precise, controlled cutting of blister packaging and other plastic materials, only United Hytronic® Cutting Machines can use dies differing in height as much as **2 1/2"** without beam readjustment. Faster, more accurate cutting and increased production result.

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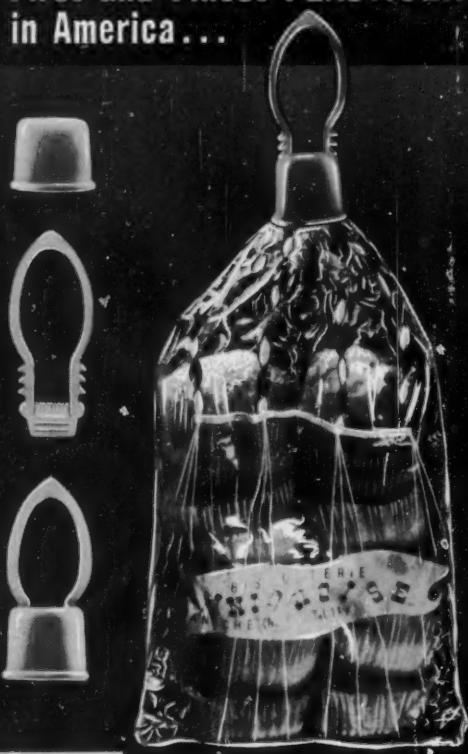
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UBS-52

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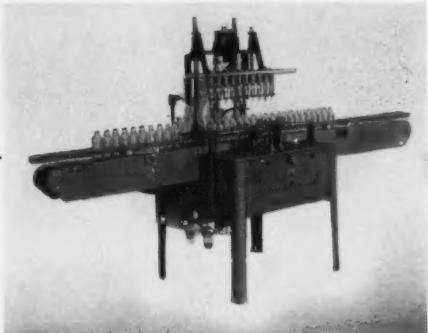
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INDUSTRIAL MAGAZINE SERVICE

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Trademark question

[Continued from page 100]

any more than Coca-Cola would put its umbrella over Minute Maid, which it recently acquired.

The point is that corporate trademarks may not be effective for products which are widely dissimilar. A leading meat packer markets ice cream under the meat packer's corporate name, but trade comments are that ice cream with this name has not been a notable success—presumably because consumers associate the name with meat products.

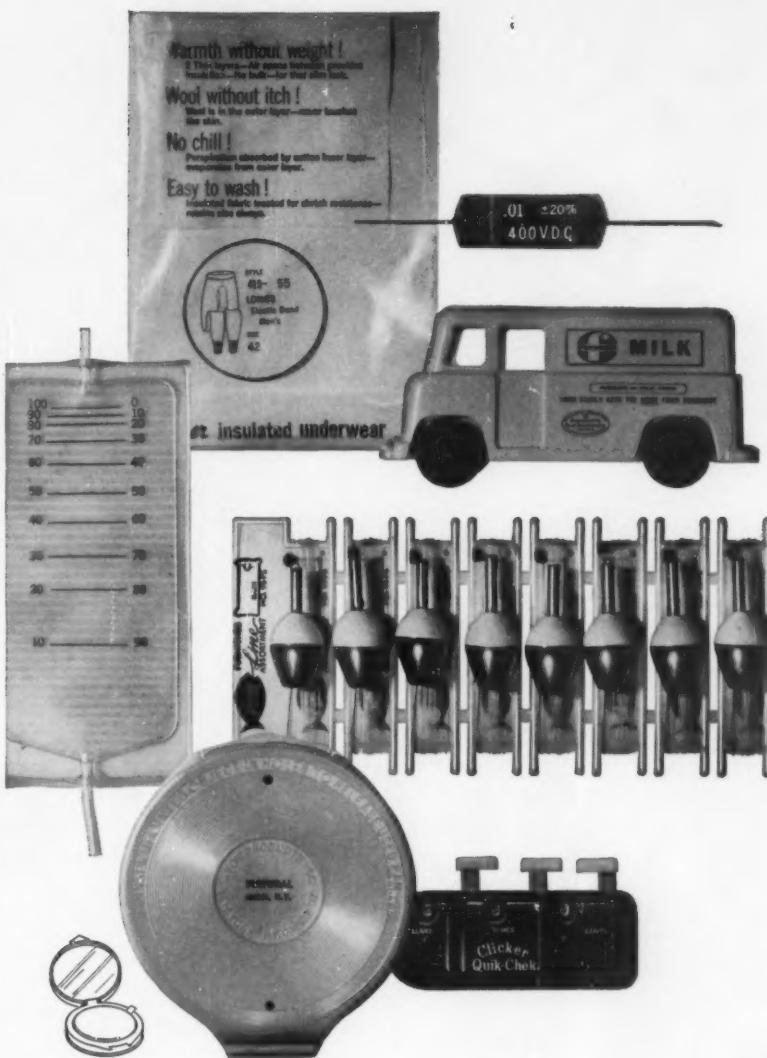
Good trademarks are among the most valuable possessions of any company. And the longer they are in use the more valuable they become. Where would the multi-million dollar Coca-Cola Co. be without its rights to "Coca-Cola," "Coke" and the famous trademarked bottle?

The first step in trademark design is to analyze the requirements. What is the trademark to accomplish? A quick insight into what is involved may be gained from two useful publications of the U. S. Trademark Assn.: "Trademark Selection—The Management Team Method," which records in 100 pages a dramatic panel discussion of the creation and protection of a trademark, enacted recently by a group of persons having varied responsibilities in the trademark field, and "Trademark Management—a Guide for Business Men," prepared as a non-legal text for those who deal with trademarks.

Once objectives are established, the criteria for selecting a trademark are readily available. An effective trademark must be:

1. *Unique.* Only if it distinguishes a product from its competitors will it do the selling job. If it is not literally unique in its field, it cannot be registered. The choosing of a good trademark is continually more difficult as the list grows longer each year. Some firms actually use data-processing equipment as an aid to find new and unused combinations of letters and words for trade names. Some experts, however, say there is no mechanical substitute for the human mind to create a good mark.

The U. S. Patent Office is crowded with applications found to be in conflict with already registered marks—perhaps accidentally and [Continued on page 244]



No doubt about their identification and decoration

—*it stops the eye, tells the story, helps the sale.* This is marking *everybody* can read—made by Markem machines and printing elements. And perhaps most important, the Markem *specialty inks* used have just the right combination of opacity, color, adhesion and drying speed each type of plastic requires.

This is the "Markem method" that can be working for you—the *right* machine, type and ink to do *your* particular marking job quickly, clearly and at low cost, in your own plant. It *stays* clear and attractive because it *stays on* your product and can't fall off or easily smudge. Call your Markem representative for complete facts, or write Markem Machine Co., Keene 1, N. H.

MARKEM



Ziploc's patented air-cell construction makes it comparable in strength to many reinforced box tapes.

"Now! A new easy-opening Box Tape

At last! A tear strip tape that lets you take *full* advantage of the economies of end-loading cartons! It's new Ziploc—the tear strip tape that's low in cost . . . yet opens neatly and quickly. New Ziploc tape can withstand the abuse of shipping, stacking, and handling! Made by The Gummed Products Company Division, Ziploc complies fully with Section 11, Rule 41, Manufacturers' Construction Joints of Corrugated Fibre Boxes.

Ziploc Tape gives you *all* these advantages because of its exclusive rayon zip channel and patented air-cell construction.* What's more, Ziploc has positive, permanent adhesion



Use any style end-loading carton! Ziploc is the answer for either corner or in-panel closure.



Ziploc's exclusive rayon zip channel assures arrow-straight opening with one easy pull.

for end-loading cartons...ZIPLOC!"



Ziploc's easy opening eliminates damaged contents and extra handling. Saves time—makes price marking a breeze!

to prevent hidden pilferage . . . assures top impact strength!

Check with your carton supplier, or write us for full facts and free samples of new Ziploc Box Tape for end-loading cartons. You'll quickly see the shipper and customer benefits that Ziploc Tape provides.

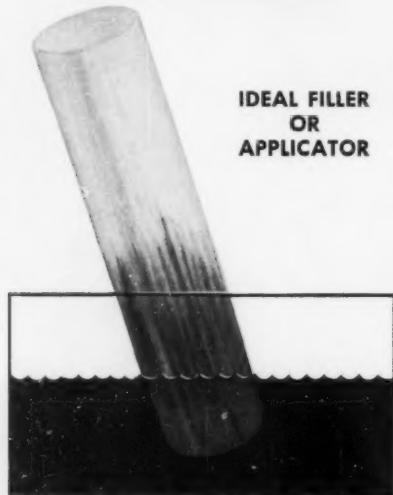
*Manufactured under Patent # 2651588



The Gummed Products Company

Division St. Regis Paper Company • Troy, Ohio

NEW! TRANSORB*



INCREASES PRODUCT SALES APPEAL

For all types of liquids and emulsions! New pure white TRANSORB* adds sales impact to your product with these customer - convincing advantages:

- **RELEASES ON CONTACT**—Covers far more surface, far easier than free flow!
- **NO DRIP, NO MESS** — Permits exact, always-neat application as needed!
- **PLEASANT TO SKIN**—Has smooth, easy-flowing agreeable touch!

IDEALLY SUITED FOR AUTOMATIC PACKAGING

The right sizes—the right shapes—for fast, easy automatic packaging! Saves time and labor costs! Fills in seconds! In many cases, can be packaged *after* filling!

TOPS IN QUALITY AND UNIFORMITY!

Highly Absorbent—holds up to 5 or 6 times its own weight! Has extra strong capillary action. Completely inert — easily withstands sterilization temperatures. Available $\frac{3}{8}$ " to 1" diameter, round or square; $\frac{1}{2}$ " to 5" length. Made to close tolerances. Custom dimensions and shapes on volume orders.

SEE FOR YOURSELF HOW YOU CAN SAVE MONEY . . . INCREASE PRODUCTION . . . BUILD EXTRA SALES WITH NEW HIGHLY ABSORBENT, FAST ACTING TRANSORB.*
*T.M. and Pat. Appl. for.

Transorb* can also be used as filters, spacers, or drug cushions.



FOR FULL INFORMATION CONTACT:

U. S. FILTER CORPORATION
P. O. BOX 4017, RICHMOND 24, VA.
PHONE BELMONT 3-4346
CABLE ADDRESS: FILTRONA RICHMOND

[Continued from page 241]

sometimes obviously imitative. A few examples may be helpful to point up pitfalls of selection. "Dressit" for a hair-setting preparation is found to be in conflict with "Tressit" for hair setting; "Trestonal" for tonic tablets with "Prestonal" for a relaxant drug; "Goodride" for machinery to recap tires with "Goodrich" for tires; "Telix" for watches with "Timex" for watches.

2. *Brief*. One-syllable words as trade names take up less space and are easier to remember and visualize as "shorthand" symbols. Joy, Tang, Lux, Spry, Rem are examples. Such short words give maximum display size on the package.

3. *Timeless*. A design or lettering that will stand the test of time without becoming dated is essential to avoid frequent trademark revision. The GE symbol in a circle—despite a little more ornamentation than today's designer might use—has been remarkable for its timelessness; it began making its appearance about 1910. The need for long-lasting single symbols is one reason for geometric and abstract designs.

4. *Easy to remember*. The value of any trademark is enhanced by the impression it makes on memory. Almost any strong, dynamic image will be remembered if exposure is frequent enough, but the more appropriate it is for the product, the less exposure it takes to remember it.

5. *Easy to read and say*. With much of today's communication through the visual and audio media of TV and radio, too much of a promotional burden is placed on the trademark or trade name if it is hard to read or to speak. This is often the fault of cumbersome trademark names in the drug field, although there may be some advantage in conveying clinical impressions. Some firms even capitalize on hard-to-pronounce names by accompanying the trademarked word with a phonetic spelling of it. "Pair-oo-Jean-a" is an example for Perugina Italian chocolates.

6. *Easy to reproduce*. The task of every designer is to create a trademark that is easy to reproduce on any surface (metal, glass, paper, plastics, etc.) and will look the same wherever it appears, whether on the package, in displays, on building signs, trucks or stationery. Marks that are too complicated or too busy

do not fulfill this requirement. Many familiar old trademarks have had to be modernized or simplified for this reason. Examples are the Singer, Shell and Behr Manning marks.

7. *Easy to symbolize in pictures*. The memory potential may be greatly enhanced by using a picture as the mark. The image of Four Roses, the figures of Johnny Walker and the White Horse for whiskies are examples. Designers point out the essential of appropriateness. A memorable trademark for years has been the Flying Red Horse for Mobil gasoline, but the connection with the brand name is obscure. The Mobil Oil Co. is aware of this and is today giving much greater prominence to the brand name, Mobil, often in combination with a very small version of the horse.

8. *Adaptable to foreign operations*. Export markets call for different approaches in the use of trademarks. Symbols must be graphic, and names must be pronounceable in any language. And the foreign mark must meet foreign registration laws, which often differ considerably from those of the U. S. For simplicity there seems to be a trend toward initials or abstractions.

Trademarks also must avoid unpleasant connotations. They must not offend religious or racial groups or encounter geographical resistance, like Yankee in the South.

Color is, of course, one of the most effective aids to trademark presentation on the package. The eye is quickly attracted to a distinctive color. Test cases have indicated, however, that mere color or division of color areas on a package cannot be appropriated as a valid trademark without at the same time identifying it with a symbol such as the user's name or trademark (Campbell Soup vs. Armour).³ This is a strong argument for a registered mark that can stand on its own in black and white, but it does not mean that color cannot be registered when it is used as part of the identifying mark.

Package trademarks chosen to measure up to these requirements and planned by experienced designers and legal counsel to meet today's complex marketing needs are among the greatest selling tools any company can have. •

³See "Armour Again Upheld," MODERN PACKAGING, June, 1949, p. 196.

What's News in Enjay Resins...



Buton 200 resins on aluminum foil



Same foil crumpled



Foil straightened out after crumpling

BUTON® Resins offer excellent adhesion on aluminum

As you can see above, Buton resins provide excellent adhesion on aluminum. Tests have shown that Buton-based coatings adhere to aluminum foil even after crumpling. This adhesion, plus the high gloss and complete colorability of Buton resins, opens up many opportunities in aluminum coatings. In addition, Buton resins offer:

- Wide cure range—air dry to high speed, high temperature cures (see chart at right)
- Excellent chemical and water resistance
- Good electrical properties

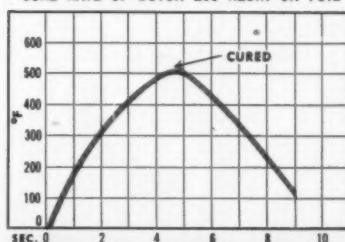
Economical—Buton resins are high in bulk and can give you more coating gallonage per resin pound. For more information, contact Enjay at 15 W. 51st St., New York 19, N.Y.

EXCITING NEW PRODUCTS THROUGH PETRO-CHEMISTRY

ENJAY CHEMICAL COMPANY

A DIVISION OF HUMBLE OIL & REFINING COMPANY

CURE RATE OF BUTON 200 RESIN ON FOIL



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FOR SALE—5 Color Web Rotogravure Press. Maximum web width 21 $\frac{1}{4}$ ". Runs on AC or DC current. Sheet and rewind delivery. 2 reversible units print on either side of web. Produces excellent print quality and steady, high production. Pre-conditioner for web, Ross gas heater, Stanford precision unwind and converter included. Reply Box 901, Modern Packaging.

DISCOUNTS ON USED Packaging Machinery. Biner-Ellison Labelmatics, Filabomatics, Feedomatic-Air Cleaners—Cappers, Single and Multi-head—Liquid and Viscous Fillers—Labelers, spot, front and back, neck band—Case Gluers, Packers, Compression units—adapted and guaranteed—trades—terms arranged. Package Machinery Exchange, Inc., 328 Bergen Street, Brooklyn 17, New York, ST. 3-6100.

MODERN PACKAGING AND FOOD PROCESSING MACHINERY—Package Machinery Model FA, FF, FFH, FA2, FA3 and FA4 Wrappers with and without Electric Eyes, also Models F, CM-3 and F10J Bundler. Hayssen Wrappers, all sizes, for cellophane and polyethylene. Hudson Sharp Campbell Models 2W6, 2W8 and 2W10 Wrappers. Scania Automatic and Semi-Automatic Wrappers. Wrap King Models M2, DW, DW-2 and DW-4 Wrappers. Ceco Models 40GG, 40TT, 45GG, A-3901-12 and 18 Cartoning Machines. Package Machinery Palmer Carton Gluers and Traylocks TL100A, TLA and TLB. Stokes and Smith Model A Volumetric Transwraps also Model A Auger and Model B with 4-scale Net Weigher. Pneumatic Scale Automatic Carton Feeder. Bottom Sealers, Wax Liners and Top Sealing Units with interconnecting conveyors. Pneumatic Scale Tite Wrap. Standard Knapp, Ferguson, A-B-C Case Sealers, Fillers, Labelers, Cappers, Mixers, Grinders. Union Standard Equipment Company, 318 Lafayette St., N. Y. 12, N. Y. Phone: CA 6-5334.

FOR SALE, two cellophane bag machines, high speed, potdevin model 111C with electric eye, 111S without electric eye, glue seal. Also G & H 4 color, 22" tall end printer. Priced for quick sale. Reply Box 907 Modern Packaging.

FOR SALE: A wide variety of new and used Poly-Ethylene and Cellophane Bag-making machinery and Printing Presses available. List sent upon request. Andex Corporation, P. O. Box 4332, Miami Beach 41, Florida.

INJECTION MACHINES for immediate removal. 2-1954 Model 10D-12 Reed Prentice. 2-1956 HA2-125 2-3oz. Impco. 2-1956 HA-4-175 4-6oz. Impco. 2-1956 HA-12-300 12-16 Impco. These machines are in excellent condition and priced at 50% or less of replacement cost. Fully automatic for speed, just the press for containers and lids. All complete with instruments and controls. Can be seen in operation by appointment. A. C. Martinelli Rogers Plastic Corporation, West Warren, Mass., HE 6-7744, J. F. Krach.

Machinery Wanted

WANTED: One 20 to 1 or 24 to 1 3 $\frac{1}{2}$ —4 $\frac{1}{2}$ extruder. Reply to Box 906, Modern Packaging.

Materials Wanted

WANTED TO BUY—Laminated Aluminum Foil Scrap—15-ton lots only; edge trim, die cuttings and skeletons must be baled. Rolls also wanted. U. S. By-Products, 1506 Eastern, Kansas City 26, Mo.

Help Wanted

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Positions filled and secured. A confidential Nationwide Service for employers seeking personnel and individuals seeking new positions. Inquiries invited. Reply to Graphic Arts Employment Service, Inc. Est. 1952. Helen M. Winters, Manager: Dept. PAC-9, 307 East 4th Street, Cincinnati 2, Ohio. Phone CHerry 1-2201.

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MANUFACTURERS REPRESENTATIVES wanted by producer of non-printed polyethylene products. Available territories: New Orleans, Baltimore, Pittsburgh, Cincinnati, Dallas and Michigan. Must be well established in flexible packaging field. Submit detailed information on personal history, lines presently carried and territories and markets covered. Reply Box 902, Modern Packaging.

SALESMEN FOLDING CARTONS—Carton experience secondary. If you are now calling on users of Folding Boxes, a Top Plant will back you up with quality and service. New York City area. Commission basis. Write in confidence. Reply Box 905, Modern Packaging.

EXPERIENCED SALESMEN wanted by established Northern California converter of flexible packaging materials. Excellent opportunity. Commission, plus draw, and all expenses paid. Two plants to give prompt service. All replies held in strictest confidence. Send complete resume of education, experience and territories covered to Box 910, Modern Packaging.

CHEMIST—DEVELOPMENT. Water Soluble Films. Experienced chemist for development program for specialty and edible films. Central New Jersey laboratories of national chemical co. Send detailed resume, include salary requirements to: Personnel Director, Box 50, Grand Central P. O., N. Y. 17, N. Y.

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BUSINESS OPPORTUNITIES
USED OR RESALE EQUIPMENT

Situations Wanted

TOP NOTCH CREATIVE SALESMAN—College graduate, 6 years successful package selling, 3 years packaging director, wants challenging opportunity in New York—New Jersey area. Thorough technical knowledge of Films, Folding Boxes, Printing and Design. Good earning capacity. Reply Box 903, Modern Packaging.

MANUFACTURERS REPRESENTATIVE—covering the State of Minnesota contacting packaging machinery users desires additional packaging machinery lines to sell. Graduate engineer with successful background selling capital equipment. Heavy sales and engineering experience. Financially stable. Maintain office in Minnesota. Married. Age 36. Reply to Box 904, Modern Packaging.

EASTERN TRAINED EXEC. TYPE SALESMAN seeking connection with reputable firm interested in expanding sales in the greater Los Angeles market. Have many years experience and knowledge of paper, foil, plastic packaging; bags, boxes and paper specialties. Self starter who can develop sales thru creativity. Salary open. Reply to Box 908, Modern Packaging.

PACKAGE ENGINEERING MANAGER—Degree, 12 years Diversified Industrial and Consumer Packaging experience. Food, Textile Products, Corrugated Containers, Electronics, Military Packaging. Thoroughly versed in Laboratory and Development work, Plastic Films, Folding Cartons, Set-up Boxes, Corrugated, Flexible. Management experience in planning, controlling and coordinating sales, Manufacturing and Research. Reply Box 909, Modern Packaging.

CREATIVE PACKAGING SALESMAN—10 years of experience with all types of Flexible Packaging Materials, including Laminations and Extrusions, plus Folding Cartons. Excellent knowledge of Rotogravure, Flexography and Offset Lithography. An aggressive salesman with tremendous potential. An idea man that can be a valuable asset to any organization. This know how available for an opportunity that presents both challenge & growth. Prime interest Metropolitan New York area. Reply Box 912, Modern Packaging.

Miscellaneous

NEED AN ART DEPARTMENT in the New York area? Not practical for you to maintain a full-time design department in the East? Let our twenty years of experience serve you on a job basis, a monthly or yearly retainer basis. Roughs, comps, color-separated or composite B&W's. Reply Box 911, Modern Packaging.

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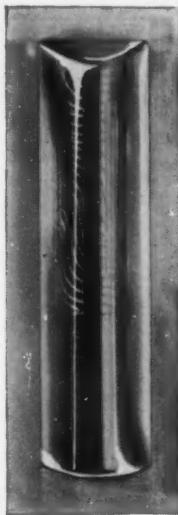
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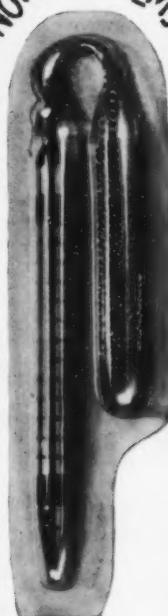
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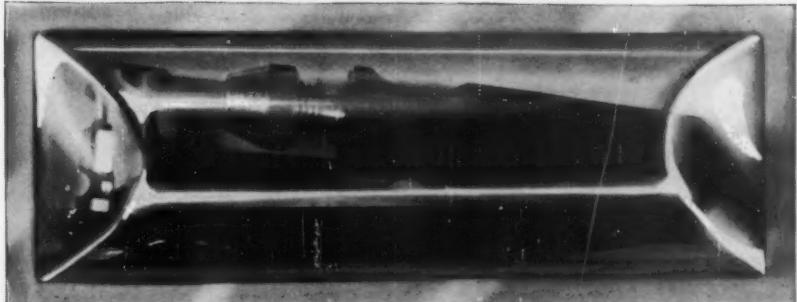
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When you specify RidgeLo #4150 you get . . . perfectly formulated coating for heat seal lacquers . . . beautiful, smooth finish for high fidelity printing . . . blisters that stay *secure*, cards that stay *flat*, and sales results that are most satisfactory! RidgeLo boxboards with special #4150 coatings are available in Gray Bak or White Bak, in all standard weights.

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PRODUCTS

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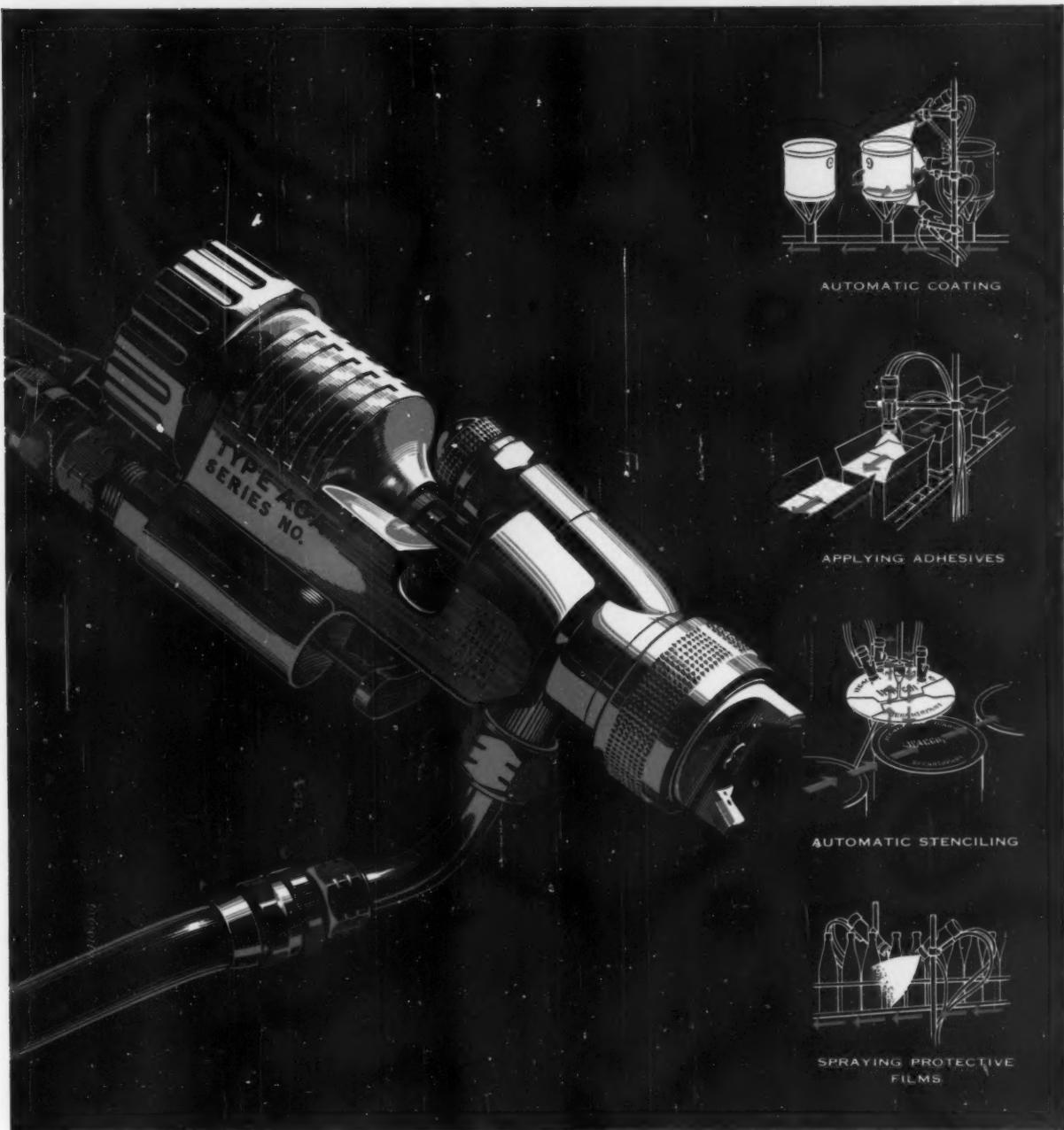
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MODERN PACKAGING

THE COMPLETE AUTHORITY OF PACKAGING



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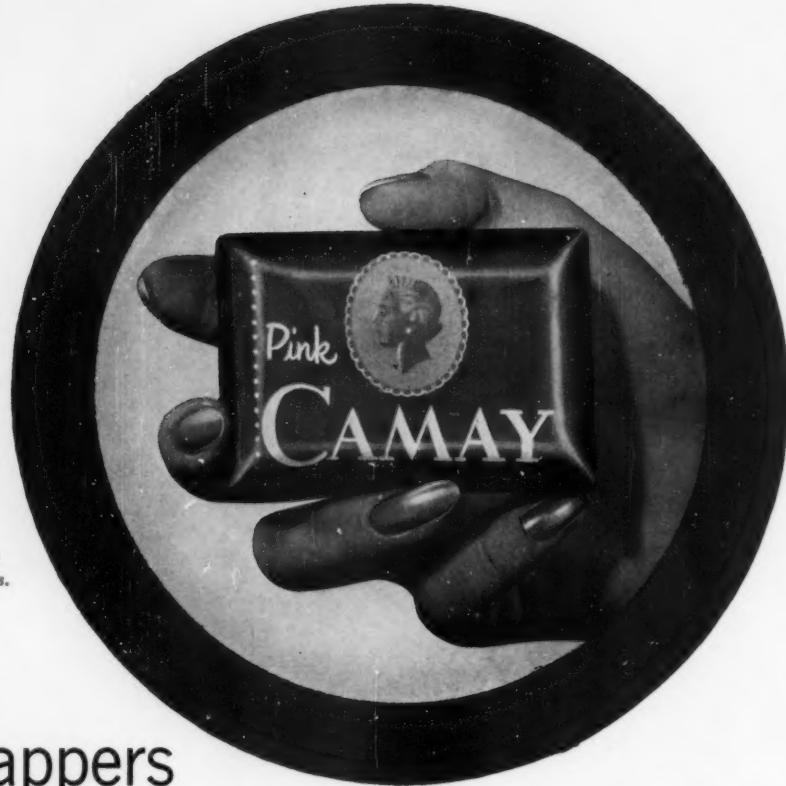
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come in five
different colors.*



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keep good company!

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SINCE 1881 • BERNARDIN BOTTLE CAP COMPANY, INC., EVANSVILLE, INDIANA



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- Recessed bottom for stacking means firm, attractive displays...neater shelving...easy storage.
- Tri-com solder now makes for a strong side seam inside and out.
- Pre-soldered striping provides superior product protection.

Continental was first in 1947 with low pressure aerosols, and is still leading the field in design ingenuity and production capability. If you're looking to increase your sales through the use of aerosol cans, call Continental. Our Technical Center in Chicago, staffed by top-flight engineers and researchers, will work with you to develop the aerosol can that's right for your product. Added service like this is why—Whatever you package, whatever you produce, Continental has the right container for you.



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